

FEBRUARY 14, 1942

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Railway Age

Founded in 1856

**WE HAVE ELIMINATED
DEMURRAGE CHARGES
AT ALL OF OUR PLANTS!**

Since November 1st, 1941, we have not paid any demurrage charges on any freight cars bringing material into, or taking material out of any of our five Ohio plants.*

We thus have completely eliminated demurrage charges—but what is of vastly greater importance during these trying times, we are sending cars so badly needed for the Victory Program back into service with the least possible delay.

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*Average detention (after beginning of free time) during month of November, 1.23 days per car; December, 1.246 days per car.

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Vol. 112

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No. 7

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The part played by the Great Northern in handling the greatest iron ore shipments in the history of the railroads is described in this article.

Alcoa Terminal Gets New Whitcomb Diesel-Electric Switcher 375

A description of the 80-ton unit, powered with two Buda 325-hp. supercharged Diesel engines and Westinghouse electric drive, designed for snappy performance in switching and spotting cars.

C. T. C. on the Norfolk & Western 377

Details of the installation on this road between Phoebe, Va., and Forest on a 22-mile single-track belt line around Lynchburg, Va. Switches are operated by power machines, spring mechanisms or hand-throw stands, according to requirements.

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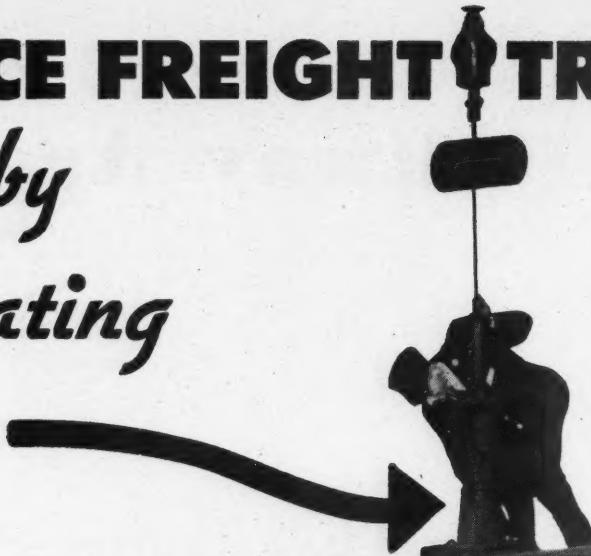
NEW BOOK 386

NEWS 387

The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service

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**REDUCE FREIGHT TRAIN
TIME by
eliminating
this**



MANUAL operation of regularly used siding switches delays the trains directly involved and frequently penalizes to a great extent contingent performance of other trains on the division. "Union" Remote Control has widely demonstrated its ability to speed train operation by eliminating train stops for this purpose. • "Union" Code Systems of control

have greatly increased in scope the practical application of this system. With proper initial planning installations of "Union" Remote Control can be readily expanded for Centralized Traffic Control operation. • We shall be glad to cooperate in making engineering forecasts of results which may be obtained and assist in planning installations. » » »



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The Week at a Glance

THE WAR FOR SOCIALISM: When it comes to a choice between fighting the war against the Nips and the Nazis, on the one hand, and that in behalf of socialism and against private enterprise on the other—it is quite clear that the latter conflict is the preference of many elements in the Administration at Washington. Take the St. Lawrence Seaway. No competent observer, independent of political interest or pressure, sees this gigantic socialistic venture as anything but an extravagant device to produce power and transportation, all costs considered, more expensively than existing or alternative facilities can produce them. But the Administration communizers are determined to bull it through, come hell, Hitler, or Hirohito. The war effort and essential industries can just whistle for the scarce materials and labor that this contemptible "defense project" will use up. How can people who are trying to sell defense bonds put their hearts in their work when they know that this kind of conscienceless boondoggling is going to absorb much of the money they raise?

TRAIN ACCIDENTS UP 25%: In December, 1941, there were 918 train accidents, which was an increase of 25 per cent over the same 1940 month. Employee fatalities were 82—a rise of 58 per cent; employee injuries were 2,382—up 43 per cent.

SPECIALTY PRICE CEILING: Leon Henderson has put a "ceiling" on the prices of "so-called railroad specialties, i. e., side frames, bolsters, couplers and yokes"—the maximum being set at the prices which were in effect on October 1, 1941. An earlier "ceiling", fixed at July 15, 1941, prices on steel castings, including railroad specialties, has thus been modified.

FURNITURE TRUCK POOL: Allied Vans have applied to the I. C. C. for authority to pool the operations of 335 truck handlers of household goods—giving a huge nation-wide system which, it is believed, would make for heavier utilization of equipment and other savings. Our observation is: Better move fast, boys, before they slap a job-protection law or ruling on you.

A NEW TROOP CAR?: A troop-carrying coach, which could later be converted to a 50-ton box car, is a proposal the railroads have made to the government to relieve the shortage in rolling stock for military movement. The railroads think the government ought to buy the cars now, and sell them to the railroads for conversion when demobilization comes.

JIM CROW AGAIN: A colored gentleman from Kansas City has raised with the I. C. C. the same issue which Congressman Mitchell (also of African antecedents) carried to victory—after the Supreme Court told the Commission what to do. The Kansas City complainant alleges that, although he possessed a first class ticket, he was required to occupy a coach in which the amenities were somewhat meager.

This was the issue in the Mitchell case, in which the Commission ordered that the specific Jim Crow discrimination which Mitchell complained of be removed—but without making its ruling apply to all similar situations. Now the K. C. litigant wants the same assurance of first class service, and speculation arises as to whether the I. C. C. might issue a general order covering all such situations.

RETIREMENT RESERVES: Scarcity of materials and labor will not permit the railroads to maintain their property, or retire obsolescent units, at a rate commensurate with current traffic and revenues. To keep their property in good average condition, the railroads have counted on generous maintenance and renewals in times of brisk business to counteract the retrenchment necessary in dull periods. If a period of activity comes and goes without appropriate restoration of the property to a high standard, it is evident that the next period of slow business will not find the plant in shape to weather a period of protracted retrenchment. An editorial herein accordingly suggests that the carriers consider setting up special reserves out of current earnings to cover such maintenance and renewals as the volume of traffic justifies but which are not possible in a period of labor and materials shortage. Present high taxes were designed to apply to *income*—not capital assets. Yet income taxes become taxes on capital if earnings are overstated by subnormal maintenance and renewal.

NO. 1 TRANSPORT PROBLEM: Mr. Eastman, as revealed in further speeches, continues to be deeply concerned over the shortage of materials needed to keep transportation in pace with defense production. He could not be so intent on this point if he believed the priority authorities were adequately impressed with its importance. Hence, his continued designation of materials shortage as the No. 1 transportation problem seems, to your observer, decidedly revealing. As has been repeatedly stated here and elsewhere, there is only one step to be taken which will evidence serious interest in this situation on the part of the War Production Authorities, and that is for them to name Mr. Eastman to membership on the War Production Board. So long as this step is not taken, the transportation community can be pretty sure that the highest production authorities are fumbling a vital part of their job.

MASS TRANSPORTATION: How the Great Northern moved one-third of all the iron ore consumed in record-breaking 1941 is related in an illustrated article herein. Most of the haul is handled in 75-ton cars, with mallets, over easy grades in the loaded direction. Equipment maintenance is concentrated in the winter months when the lakes are frozen. The ore boats average 9,900 tons, which is less than the average train, and a vessel gets its load in less than three hours. Here is mass transportation as is.

FILL IN THE LOW SPOTS: In October, 1941, the railroads did 518 million dollars of business—while in January, 1941 (which had just as many days as October) the amount of business done was 27 per cent less than in October. The leading editorial herein draws attention to the fact that, regardless of the pressure of traffic on available transportation facilities, there are some *months* when the railroads have capacity to spare. There are also certain *days* of the week and of the month, when a lull comes—and even some *hours* of the day are relatively quiet. By shifting as much traffic as possible from busy months, days and hours to quiet months, days and hours, a great deal of additional transportation service can be secured from existing facilities.

ENLIVENS CAR MEN'S MINDS: There is an organization of car men in St. Louis which is no mutual admiration society, but which, instead, stimulates thinking and rewards merit wherever it is found. Outstanding leaders in car work are honored by this group—but it doesn't overlook the "little fellow" either. On the contrary, free discussion by all car men with ideas—regardless of position—is encouraged, and prizes are awarded for practical papers on car work from men in the ranks. An editorial herein tells of the activity of this admirable association—which seems to be governed by principles which might be profitably applied in other departments than the car, and in other localities besides St. Louis.

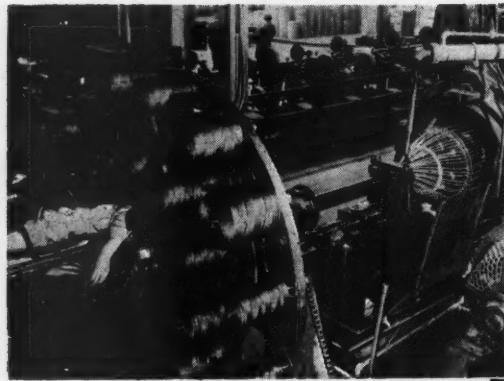
AIR & RAIL TRAVEL IN '41: In 1937 passenger-miles carried in airplanes were 5 per cent of railroad sleeping and parlor car passenger-miles. In 1941 the percentage was better than 15. This comparison is brought out in the Bureau of Statistics' monthly analysis of transportation developments, reviewed in the news pages herein. Last year witnessed the biggest increase in railroad passenger traffic to occur in two decades, but what it would have been if the airlines had had all the planes they'd like to have is, possibly, something else again.

HOW TO BE FORESIGHTED: How many railroad people realize that war plants have already been authorized or built which will increase America's manufacturing investment by more than a third, mostly government-owned, and that these new plants are located disproportionately in areas heretofore not industrial? What will the effect of this shift in commercial geography be on the future traffic of your railroad? Things are changing so fast today that keeping up with them is no spare-time job, especially for railroad officers who don't have any spare time. As revealed in an article herein, the Rio Grande has recognized this situation by assigning a full-time research man to the observation of traffic trends, and has otherwise provided for specially-assigned investigation of conditions which need looking into.

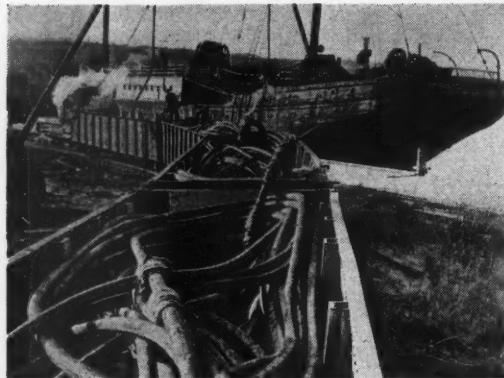
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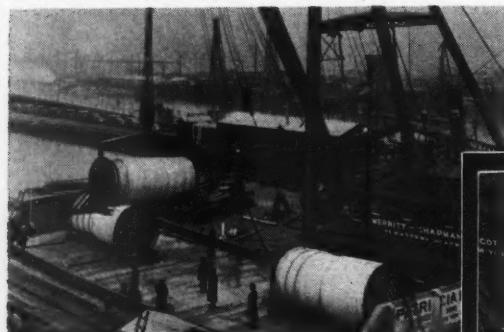


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22,000 feet of Okonite submarine power cable in one continuous length. This cable is the third in the submarine series ordered by the same customer within the past 15 years.

Special reels equipped with lifting beams to simplify transportation from factory to site of installation.



Diver checks trench-laying of high voltage submarine cable on ocean floor. Cable section (1/3 actual size) shows construction of 22,000 volt, 500,000 CM non-leaded Okolite-insulated submarine cable.

Okonite has earned the privilege of manufacturing the majority of the high voltage rubber-insulated submarine cables laid in the rivers and territorial waters of the United States during the past 5 years.

The following records have been established:

VOLTAGE: up to 35,000 volts non-leaded

DIAMETER: up to 5.6 inches

LENGTH: up to 22,000 feet without a joint

A partial list of Okonite rubber-insulated submarine cables operating at 13,000 volts and over, includes installations in every major area of the country: California, Pennsylvania, Washington, Rhode Island, Texas, New York, Illinois, Louisiana and Virginia.

When you are figuring on a submarine cable installation, ask Okonite engineers to make recommendations. These will include proper cable design and test procedure, preferred methods for shipping the cable and suggestions as to installation practise.

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Insulated
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Getting Maximum Service From Available Facilities

It has been truly observed that traffic arising from the war effort is largely non-seasonal in character, and hence, that it puts less strain on the railroads to move it than would be the case if it rose and fell seasonally as commercial traffic does. For example, if freight traffic had risen as much proportionately from June, 1941, to October as it does normally, carloadings in the latter month would have attained a weekly peak of more than 1,000,000, whereas they actually went to only about 923,000. Welcome though this tendency

Production of Transportation by the Railroads in 1941 Compared with Potential Capacity

	1941 Operating Revenues (000)	Per Cent of 1925-29 Average†	"Potential" Revenues, Gaged by Oct., 1941*	Per Cent Deficiency Under Performance
January ...	\$377,374	78.7	\$517,605	27.1
February ...	358,414	77.4	467,501	23.3
March ...	416,319	81.0	517,605	19.6
April ...	375,008	76.2	500,886	25.1
May ...	442,286	85.9	517,605	14.6
June ...	455,023	87.6	500,886	9.2
July ...	485,446	91.3	517,605	6.2
August ...	493,674	87.0	517,605	4.6
September ...	488,979	86.0	500,886	2.4
October ...	517,605	86.0	517,605	..
November ...	457,012	86.9	500,886	8.8
December ...	479,560	96.6	517,605	7.4
	\$5,346,700	85.2	\$6,094,280	12.3

* Actual revenues for October taken as "standard" for all 31-day months. Thirty-day months taken as 96.77 per cent, and February as 90.32 per cent, of October revenues.

† These figures, while useful in comparing one 1941 month with another, do not give a satisfactory measure of 1941 traffic compared with that of the years 1925-29 because of a considerable reduction in average revenue per ton-mile and per passenger-mile in 1941, as compared with the earlier period.

toward greater uniformity in the flow of traffic is, at a time when the railroads will have to operate at or near their capacity to supply the demand for transportation, the 1941 figures reveal, nevertheless, that great variations from month to month still persist.

This situation is brought out in the accompanying table. The measure here used for total traffic volume is operating revenues. Since there were no important rate changes during 1941, the revenue reports probably give about as satisfactory a gage of total traffic volume as is available. Averages for the years 1925-29 are taken as a basis for comparison, because normal seasonal variations were fully operative—probably—in

those years to a greater degree than in any similar period since that time. Moreover, the period taken as a whole was free from marked cyclical disturbance and the secular trend was nearly level. Showing 1941 revenues in percentages of the 1925-29 average does not give an accurate measure of comparative traffic in the two periods, but it does afford a basis for comparing month-to-month fluctuations in 1941 with what they were in a normal period. Passengers and freight carried one mile, in some respects, would provide a more tangible yardstick, but these units can be combined only on an arbitrary basis; anyhow, they omit mail and express traffic, and they are not yet available for the full year. Operating revenues reflect the entire service of the railroads, and they also have the further advantage, as far as freight service is concerned, that they avoid the conflict which arises when a selection has to be made among carloadings, revenue tons, and revenue ton-miles.

October's Performance Possible in Other Months

In October—1941's month of heaviest traffic—the railroads hauled freight, passengers, mail and express to the tune of \$517,605,000. During that month, they still had reserves of capacity left over for all classes of traffic. Just how great those reserves may have been cannot be stated exactly, because they were not put to the test. But the railroads did demonstrate, beyond any question, their ability to provide, and with capacity to spare, \$517,605,000 of transportation service in one 31-day month. It follows, obviously, that they could, if they had been called upon to do so, have produced an equal amount of transportation service in all the other 31-day months of 1941; and a *pro rata* amount in the 30-day and 28-day months. The difference between the first and third columns of figures in the accompanying table represents, month by month, the amount of transportation service the railroads had readily available but which the shipping public did not utilize.

For example, the railroads could have provided \$517,605,000 of service in January, just as they did in

October—but public patronage of railroad facilities in that month reached a total of only \$377,374,000—or a deficiency of 27.1 per cent under what the carriers had readily available. In February, the deficiency in demand was 23.3 per cent. In March, demand gained somewhat on capacity, but in April, due to the coal strike, the deficiency in demand rose again to more than 25 per cent. For the entire year, as the table discloses, the railroads were undeniably ready (as they demonstrated by their October "sample") to provide \$6,094,280,000 of transportation service with no congestion and with facilities to spare—but the actual call upon them came to only \$5,346,700,000 of transportation service, or a total deficiency for the year of approximately 12.3 per cent.

Accommodating Production to Transportation Efficiency

The shipping community has for so many years been accustomed to a surplus of transportation, where it has not been necessary that the convenience or efficient working of the transportation machine enter the calculations of the shipper or consignee, that a change to other arrangements will not be easy. Nevertheless, it is also true that, where no accommodation whatever has been necessary toward transportation, a considerable degree of such accommodation is possible by minor changes which will work little if any hardship. The cantaloupe movement cannot be shifted to February and March, but, on the other hand, much of the coal could move in the summer. Incidentally, some of the recent heavy buying of consumers' goods—however much it may arouse the ire of Leon Henderson—is probably a very good thing from the standpoint of the efficient use of the country's transportation plant. Better for the stuff to move in on the housewife's shelves now than to wait until traffic gets much heavier later on in the year.

Using Intensively What We Have

The principal reliance of the country, in avoiding a transportation shortage, must be in the War Production Board. All the Board has to do is to say the word, and the railroads will get the materials needed to keep their capacity ahead of any demands whatsoever which may be made upon them. At the same time, the users of transportation—at least those who *can* ship or travel just as well at one time as another—can add tremendously to the capacity of the existing transportation plant, if they will concentrate their patronage at the *times* when the carriers have the most spare capacity.

The table herewith shows that there are some *months* of low traffic, into which, insofar as possible, transportation tasks should be shifted from the busier months. But there are also *days* of low traffic (i. e., certain days of the month and certain days of the week)—and many shifts can be made from the busier days to the duller days. There are also *hours* during the day which

are congested with transportation work and others which are more leisurely. The customer who seeks out the low spots—be they months, days or hours—will be doing his country a great favor, along with himself and the railroads.

The carriers themselves can, of course, help along this shift of traffic away from tight situations and into the low spots—particularly by advertising and other publicity. Why not, for instance, use some of the bulletin boards and newspaper advertisements, not alone to attract customers to trains which are already popular to overflowing, but also to draw attention to some of the services where there is no congestion? Many passengers, and possibly some shippers also, would today welcome a little elbow room above all blandishments of luxury and speed. Some of them might even prefer avoidance of congestion to convenient arrival and departure times.

Reserves for Retarded Replacements, Renewals

Railroad plant and equipment are being used more intensively than ever before. Sound practice requires that such intensive wear and tear on railroad property should be accompanied by maintenance, renewals and replacements also at an unprecedently high level. Because of the current shortage of materials and labor, however, it is altogether unlikely that retirements and replacements can in all respects be made at a rate justifiable by the present level of traffic—or even that maintenance can be sustained at a rate which present traffic volume would normally permit. A definite danger exists, therefore, unless appropriate measures are taken, that railroad net earnings may be overstated during this period; and, moreover, that the end of the war may find railroad property in a less favorable physical condition than heavy usage and a period of relatively favorable earnings normally would have occasioned.

Railroads have usually been disposed to favor "replacement" or "retirement" methods of counteracting depreciation in their property—to methods which charge depreciation at a pre-determined rate, based either on intensity of usage or the passage of time. Depreciation is charged, it is true, on rolling stock at pre-determined rates based solely on the passage of time—but these rates are modest, and need to be supplemented when conditions are favorable by retirement charges, if they are to reflect the present intensity of use. As is generally known, it is not the general practice to charge depreciation on fixed property at all—although provision is made in the accounting rules so that the carriers have the option of making such charges if they choose to do so. The advantage of the "retirement" and "replacement" methods the railroads have favored is that they permit the property to be restored to tip-top condition when earnings warrant—while al-

lowing retrenchments in periods of low earnings, thus tending to level off to some degree the "peaks" and "valleys" in earnings—thereby contributing to steadiness in the financial structure.

Several suggestions have been made to meet the present condition. One involves a reservation out of current revenues of a sum sufficient to take care of maintenance justifiable at present levels of traffic and earnings, but which must be presently deferred because of shortages of either material or labor. It appears quite probable that the Interstate Commerce Commission would authorize railroads to set up such reserves. As suggested by the American Institute of Accountants in Research Bulletin No. 13, issued in January, 1942: "It would be wise on the part of the government to give consideration to the recognition of provisions of this kind as deductions in the determination of taxable income, subject to necessary safeguards in regard to the ultimate disposition thereof."

Accruals of depreciation charges on roadway property would, to some extent, offset the need of railroads for deferred maintenance reserves. Depreciation accounting, as heretofore noted, is required on all rolling stock but is optional on roadway property. That the option has so far not been generally availed of is indicated by railroad reports to the Interstate Commerce Commission which for 1940 show that only a little more than \$7 million was charged to the depreciation accounts in maintenance of way and structures expenses. The Commission has indicated that it proposes to require all railroads to inaugurate a system of roadway property depreciation, beginning with January 1, 1943. It is understood that some roads are now making plans for exercising the present accounting option in their 1942 accounts, thus anticipating the Commission's action. Others will want to give such possibilities careful consideration. One reason for the railroads to look with favor on this plan is that depreciation charges could be deducted for income tax purposes in the 1942 accounts, provided the railroad files a timely notice of its intent to change its plan of accounting, pursuant to the requirements of section 41 of the Internal Revenue Code. Overstatement of earnings through under-charges to depreciation, maintenance and renewal is particularly unjust to owners at a time when income taxation is heavy, as it is at present, because it transforms a tax meant to apply only on income into an actual levy on capital assets.

Railroad property ought not to be permitted to deteriorate or become obsolescent as a result of its war service. Since not all the physical means will be available to prevent some deterioration—or at least over-aging or obsolescence—from occurring while the war is on, financial and accounting arrangements should be made to collect the funds while the war continues to correct its effects as soon as hostilities cease. Such action is desirable not only to maintain the integrity of railroad property devoted to the public service, but also to make the accounts square with the facts. Reserves accumulated now to permit catching up when the war

ends—both in retirements and any lack of justifiable maintenance which may be necessary—will serve the further purpose of transferring *some* employment and purchases from a period when the supplies of both are scarce, over to a time when railway employing and purchasing activity will be highly welcome contributors to the prevention or mitigation of a post-war depression.

Developing New Ideas of Car Men

A competent and aggressive group of car men, known as the Car Department Association of St. Louis, has attracted considerable favorable comment by willingness to give a real trial to any new idea which promises to increase the prestige of the association and the contribution which it can make to individual members and the railroads they represent. Each year for the last four years, for example, this association has awarded a bronze plaque to some prominent railroad man who, in its opinion, has made an outstanding contribution during the preceding 12 months to the design, maintenance or use of freight cars. This award was initiated by S. O. Taylor, former master car builder of the Missouri Pacific, and past recipients have included K. F. Nystrom, mechanical assistant to chief operating officer, Chicago, Milwaukee, St. Paul & Pacific, and V. R. Hawthorne, executive vice-chairman, Mechanical division, Association of American Railroads. The award for 1941 was made to C. J. Nelson, superintendent of interchange, Chicago Car Interchange Bureau, as mentioned in a news item in the *Railway Age* of November 8.

Another constructive step taken by this live association in bringing out and developing new ideas is to encourage men from the ranks to feel perfectly free to participate in the regular monthly meetings and express their views without reserve. For over two years, now, this association has made a general practice of supplementing the principal address at each meeting with a short paper prepared and presented by some car man from the ranks. To stimulate interest in these papers, prizes of \$25, \$15 and \$10 for the three best papers, and a smaller nominal prize for each of the other constructive papers which may be presented, are awarded. The details of this award for 1941 were published in the December 20 *Railway Age* and an analysis of the returns show that, of the seven papers presented, the first prize was won by a railroad clerk and extra gang foreman of the Terminal Railroad of St. Louis; second prize by a Pullman yard foreman and the third prize by a planing-mill operator of the Southern. Honorable mention was awarded papers by a carman helper of the Pennsylvania, a car-department lead man of the Illinois Central, an electrician of the Missouri Pacific and an employee of the Socony-Vacuum Oil Company.

It is interesting to note the announced objects of

this competition; namely, to encourage men in the ranks to take an active part in meetings; help train these men to think and talk while on their feet; develop information of interest and value to car men; and stimulate interest and attendance at monthly meetings. The individual papers were judged on the basis of originality of material submitted, 30 per cent; important bearing on car department work, 25 per cent; practicability of the suggestions advanced, 25 per cent; clarity of the description, 10 per cent; and effectiveness of the presentation, 10 per cent.

Reference to the "Short Papers" competition of the Car Department Association of St. Louis is made with the thought that this plan or some variation of it might be helpful in other associations and possibly on individual railroads in developing ideas and teaching men how to evaluate the advantages and limitations of these

new ideas before putting them into effect. It is not easy to get men inexperienced in writing to put their ideas on paper, hence the value of open discussion. Experience such as the Illinois Central has had with its highly successful employees suggestion plan indicates that not more than 10 per cent of the suggestions advanced have sufficient merit to be adopted, but the present is no time to overlook the economies and improvements inherent in this 10 per cent. Unquestionably, the railroads, like other industries, need the benefit of constructive thought and stimulating leadership, permeating from the top down, but the job is only half done unless constructive ideas can also work from the bottom up. Obviously, an organized effort is particularly required at the present time to encourage and develop the ideas of railroad men in the lower supervisory positions and men in the ranks.

How Divide Traffic Economically?

December railroad and truck loadings totals indicate that the halt which occurred in November in the much more rapid relative growth in truck traffic was temporary. December truck loadings increased 25.3 per cent over 1940, but railroad loadings were only 12 per cent above the previous year—resuming the more moderate increases in loadings experienced in previous months.

With the government becoming a larger shipper each month, and a large part of its business being long-haul, the figures afford no certainty about the trends in commercial traffic. It seems reasonably safe to assume that government business moves predominantly by rail. Also, the probable falling off in ordinary commercial traffic may serve to prevent the figures from accurately revealing the strengthening by truck operators of their hold on commercial business—the mainstay of future prosperity.

It is the opinion in some quarters that a solution of the problem of unnecessary duplication of facilities as between trucks and railroads may be accomplished through the allocation of buses, trucks and rubber only to short-haul operators. This undoubtedly is the *goal* to be achieved in any introduction of economics and common sense into the division of traffic between railroads and trucks. The question is whether this goal can be attained more satisfactorily by more or less arbitrary action, or whether it can be better attained by economic methods, i. e., by action on the rates.

Even if rubber and new trucks were forbidden to long-haul operations, it is probable that most of them have power and rubber on which to operate for a year or more. Is it likely that the authorities will issue any order more drastic than cutting off further supplies of vehicles and rubber to the long-haul operators? If not, then these uneconomic operations could continue for a long time, while long-considered rate adjustments by the railroads would greatly curtail these operations almost at once.

Is it likely, moreover, that the authorities will

be able to induce long-haul operators to withdraw from such business merely by the use of persuasion, so long as such operations remain profitable? It might very well be that officers of such concerns would feel remiss in their duty to their employers if they should withdraw from such operations so long as they continue to be legitimate and profitable.

Railroad officers, too, would be in a similar dilemma if faced with a similar request. The conflict in the mind of a responsible manager under such conditions can be overcome by removing either the legitimacy or the profit from the operations, from which it is socially desirable that he withdraw.

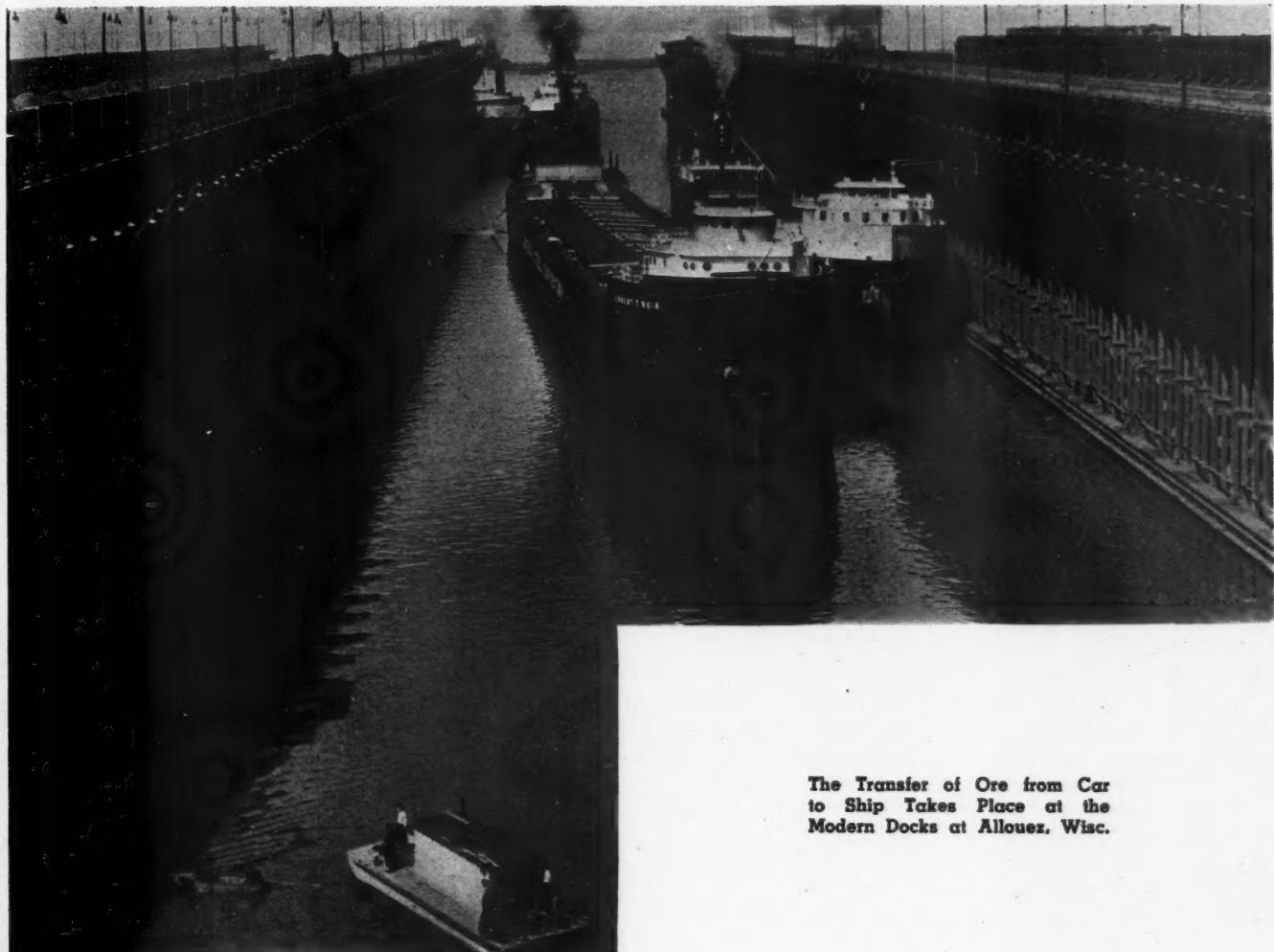
We do not here argue that the Office of Defense Transportation should not issue specific orders in a case like this, if necessary. Undeniably the efficient service of the transportation machinery of the country in the war effort requires a more economic division of traffic among the competing agencies of transportation. On the other hand, it might at least be worth considering that this division might be achieved by rate changes—more accordant with the principles of both free enterprise and democracy than purely arbitrary action.

Handling this matter through the device of rates would *induce* shippers to choose the best utility for a given purpose, and avoid dragooning them unnecessarily. Moreover, the rate approach will solve this problem, not only during hostilities, but permanently. Both the railroads and the trucks can face the post-war future with more confidence if they make this adjustment now. There is no better time to do a thing than when you have the money to do it with.

If the railroads and trucks continue as they are, or under only an arbitrary division of traffic, at the end of the war both operations will be scattered and in a bad strategic and cost position to meet the air competition which both of them will then face. It would not be good for the carriers or business if this should happen.

Handling the Vital Ore Movement

Great Northern operates one of the nation's most important transportation arteries



The Transfer of Ore from Car to Ship Takes Place at the Modern Docks at Allouez, Wisc.

EARLY in the morning on December 5, 1941, the last of the season's huge ore trains rolled into the dock yard at Allouez, Wis., thus completing the Great Northern's part in the greatest iron ore shipping season in the history of the railways. During the 245-day shipping season, the G. N. loaded 25,484,085 long tons of ore from the Mesabi range on boats at its docks at Allouez, Wis. This compares with 19,459,831 tons handled in 1940, an increase of 6,024,254 tons, or 30.9 per cent. The 1941 tonnage was also greater by 5½ million tons than that hauled during the 1937 season, which was the previous all-time record year. This movement included approximately one-third of all the ore consumed in the United States last year.

Throughout the entire season, the railway capacity was in excess of the other factors contributing to the movement. The G. N. was always in position to haul more ore to the docks than available boats could take away from them in the lake movement.

During the 1941 season, the G. N. served 61 mines on its own lines and received ore from 101 different mines

in all. The Mesabi range, the district which includes all these mines, is situated in Minnesota about 100 miles northwest of Duluth. The G. N. must not only handle the ore over the road, but must also supply rather elaborate mine-run switching service to gather it from the various mines. The accompanying map shows the railway's lines to and from the range, as well as the lines in the range country itself. The mines are largely of the open pit type and originally all of the ore was hauled from the pit to the surface by mine locomotives and in the standard ore cars. In recent years, however, many of the mines have adopted motor trucks to bring the ore to the surface, these being more flexible and also enabling the mines to get at the ore that was formerly tied up in the benches on which the railway tracks stood.

The Great Northern's mine runs center at Kelly Lake where a 2,157 car yard is maintained. Supplementing it are numerous feeder yards scattered over the range, the largest being at Nashwauk, between Kelly Lake and Gunn. This latter yard is also used in mak-

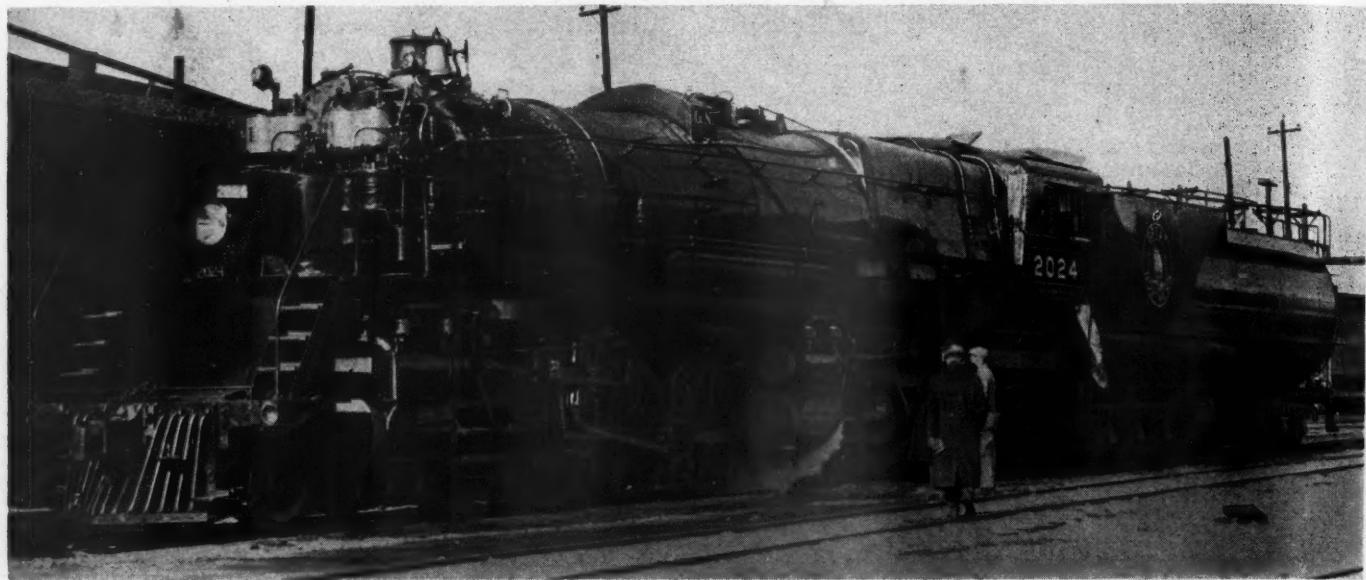
ing up trains of ore from the extreme western end of the range, which move via Gunn and Brookston and not via Kelly Lake. The empties are switched to the mines by the same runs that bring in the loaded cars of ore.

Expert Car Handling

The measures that are necessary to handle 25½ million tons of ore are indicated by the following figures. In the season of 1941, the G. N. moved about 2,139

gross ton miles per train hour. A further record established in the same month was in the total, loaded and empty, of 202,510 average gross ton miles per train hour, a 5 per cent increase over the record established in July, 1940.

The production of figures such as these was made possible only by expert car loading and handling. The Great Northern owns 6,300 ore cars of 150,000-lb. capacity and 1,100 ore cars of 100,000-lb. capacity. Of the larger cars, 1,500 were purchased in 1939 and delivered



This Type of Locomotive Was Developed Especially by the Great Northern for Handling Ore Trains

trains of ore, involving the handling of 375,844 cars. The total tonnage of cars and ore hauled amounted to 31,121,317 long tons. July was the record month, when 56,976 cars of ore were handled, amounting to a total of 4,739,066 gross long tons for ore and cars and 3,671,437 gross tons of ore alone. The record figure for east-bound loaded movement (to the docks) of 299,782 average gross ton miles per train hour was also established in July, 1941, and each month from May to October inclusive showed an average figure of more than 280,000

for the 1940 season and all of them are relatively new. Certain advantages in car handling are inherent in this movement, such, for example, as the fact that the average haul is only about 100 miles and the cars involved seldom leave G. N. rails. A further advantage is that the period of approximately four months in the winter when no ore is shipped, permits all cars to be repaired and put in as nearly perfect condition as possible before the spring movement begins. In contrast, however, the car handling is complicated by the necessity for loading all ore as it comes from the mines, irrespective of grade, but unloading the cars according to grades of ore, so that cargoes are built up in sections of the huge docks to whatever specifications are required, to meet the loading orders for the ships that are due to arrive at Allouez. This causes an average of 500,000 long tons of ore to be held on the docks or in cars at all times, which tonnage rises to over 600,000 in peak periods.

Insofar as possible, the entire movement is handled in the 6,300 150,000-lb. cars, but in record seasons such as 1941, the 100,000-lb. cars must also be pressed into service. Even this year, however, of the total of more than 375,000 cars handled, only 17,292 were of the 100,000-lb. type. This resulted in an average load per car of more than 60 long tons each month, with a record high in June of 65.18 gross long tons, which compares with the 1940 record of 63.85 tons established in September.



Loading Ore at a Washing Plant on the Mesabi Range

Maximum Locomotive Utilization

Simple Mallets (2-8-8-0) are used in the road haul of the ore and the empties. These locomotives are ideally adapted to this particular service and have been produced and brought to their present high standard of

efficiency by long experience in the laboratory of actual road operations. They carry a working steam pressure of 300 lb., each engine weighs 489,200 lb., the loaded tender weighs 365,400 lb., giving a total weight of engine and tender ready for road service of 854,600 lb. The heating surface of the tubes is 5,782 sq. ft., the superheating surface is 2,188 sq. ft., and the grate area is 95 sq. ft. The firebox is 126 $\frac{1}{16}$ in. long by 113 $\frac{1}{8}$ in. wide. Ample coal and water capacities permit the avoidance of many



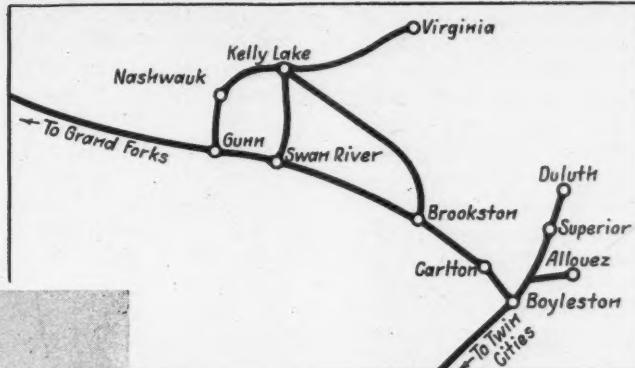
stops, the coal capacity of the tender being 24 tons and the water capacity 21,500 gal. Like the cars, the locomotives are thoroughly overhauled during the winter, so that only enginehouse attention is necessary during the ore movement.

To insure maximum utilization, a system has been worked out whereby each active locomotive makes a round trip of 215 miles daily. At Allouez, the road crew boards the engine as soon as it reports and leaves immediately with the train of empties. At Kelly Lake, the incoming engine is taken to the enginehouse immediately upon arrival, serviced by the hostler and taken to the outgoing train by the crew in the usual manner.

Road Operations

The basis of such heavy operations is naturally a well maintained track, laid with 90 to 130-lb. rail, tie plated and rock-ballasted. An unusually high standard of maintenance is required to fit the track for the movement of trains whose total weight with lading frequently amounts to more than 5 million gross tons monthly. The method of operation is to run the trains of empties over the double track main line, protected by automatic block signals, from Allouez yard to Swan River, 76.5 miles, with an intermediate stop at Brookston for coal and water. From Swan River the trains then run over a single track line to Kelly Lake, 25.5 miles. Except for one local freight daily, this stretch of track is used exclusively by trains of empty ore cars, so that the entire run of 102 miles of the trains of empties westbound is made without interference with the eastbound ore trains.

The loaded trains eastbound operate over two routes. The majority run over a single-track line, mostly tangent, from Kelly Lake to Brookston, 50.3 miles. This stretch



Above — The Territory in Which the Ore Is Mined and Transported. Left — The Ore Cars Are Constantly Inspected and Kept in Repair

of track does not have an open station in the entire distance and, since no trains are operated on the line except eastbound ore trains, there is no traffic interference. An alternate route is used for ore from mines located on the western range. These trains turn east on the main line at Gunn, as shown on the map, and operate thence to Brookston, via Swan River. The loaded trains stop at Brookston for water. From Brookston to Allouez, 49.3 miles, all loaded trains follow the same route, in the reverse direction, as the empty trains.

On the main line, the ore trains have rights over nearly all other trains and, on the branches, as described, there is no interference, which assists materially in avoiding practically all stops except the one at Brookston. Even here, the modern water facilities have reduced the time lost to the minimum. The ore trains are all dispatched as extras, under straight running orders, and the liberal installation of power switches further curtails the number of stops. The empty movement faces an ascending grade practically all the way, with a ruling grade of 1.16 per cent. Conversely, the eastbound movement is practically all downgrade, with a ruling grade of 0.2 per cent.

The result of all this care in equipment, track, signaling and operating methods is that the trains make excellent time, considering the heavy trainloads. This year, a grand average of the several thousand trains operated shows that they made the westbound run with empties in 4 hr. 37 min. for the 102 miles, and the eastbound run with loads in 5 hr. 29 min., for varying distances between 105 and 120 miles.

Dock Operations

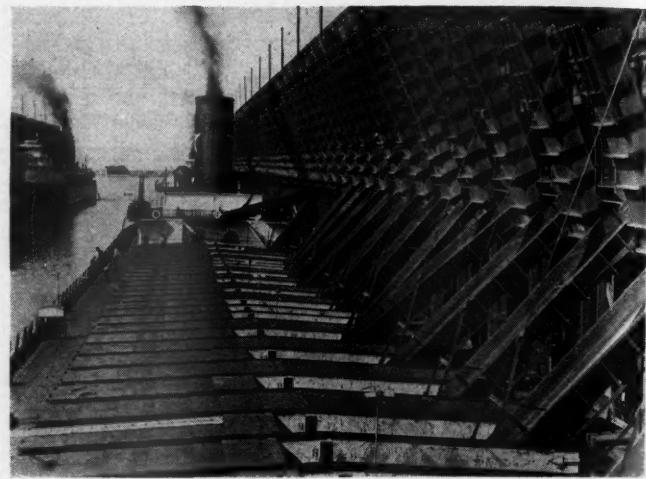
The G. N. ore port at Allouez, Wis., is about five miles east of downtown Superior, and is part of the Duluth-Superior harbor system. A 74-track yard, with

a double-track hump and a capacity of 7,231 cars, is located a half mile from the docks and is used only for ore traffic. Twin automatic scales, each 24 ft. long and having 250,000-lb. beams, are used for the weighing. Last year, a steaming plant costing \$250,000 was constructed. This plant was completed on November 1 and is capable of thawing 88 cars at one time. Because of the unusually mild weather last autumn, the plant was used to any considerable extent only on seven days, and even on those days the ore was frozen only about 5 or 6 in. down from the top, whereas 15 to 16 in. of frost has not been unusual in severe weather during other seasons. The mild weather and the fact that the new 150,000-lb. cars are much better equipped for dumping, caused a material reduction in the necessity for men climbing the cars and "punching" the ore to start it running through the hopper bottoms.

Four modern docks rise about 80 ft. above the water, the longest extending 2,244 ft. into the bay. They have a capacity of 441,800 long tons, divided into 1,352 pockets. Blocks of these pockets are designated for various cargoes, and the ore in these blocks is built up to varying specifications prior to the arrival of the boat. The cars of ore are sampled as they leave the mines, and each load must be emptied into the block of pockets where that particular grade is required. On a gigantic scale, the operation is comparable to an apothecary shop.

Many new operating records were created at the docks this year. For example, between 7 a. m. on July 21 and 7 a. m. on July 22, a total of 21 boats, containing 209,311 long tons of ore were loaded at the four docks. The total average detention time of vessels at the docks was reduced from 5 hr. 42 min. in 1940 to 4 hr. 56 min. in 1941. During July, the average detention time of the 375 vessels loaded was only 4 hr. 12 min. The average time for loading vessels was reduced from 3 hr. 15 min. in 1940 to 2 hr. 46 min. in 1941, the lowest average loading time, 2 hr. 35 min., being in October, when 333 vessels were loaded.

The time for loading 1,000 long tons was reduced from 35 min. in 1940, to 30 min. in 1941. The best record was made in July, when 3,847,492 tons of ore were loaded into vessels at the Allouez docks in an average time of 25 min. per 1,000 tons. The average boat loading in 1941 was 9,904 tons, less than the average train load brought down from the range to the docks.



The Various Grades of Ore Are Mixed at the Dock During Loading

The nature of the iron ore traffic and its relation to national prosperity and to national defense, require that the capacity of ore-moving facilities be maintained in advance of all potential demands and irrespective of intervening lean years. The investment in rail lines, equipment, yards and docks used exclusively for this traffic, must earn its return during shipping seasons of 7 to 8 months, with the volume of traffic fluctuating widely from year to year, depending on the demand for iron and steel.

The Great Northern iron ore shipments from Allouez dropped from 17,355,736 long tons in 1929 to 692,651 tons in 1932; climbed to 20,271,959 tons in 1937, but fell off sharply again in 1938 to 6,149,654 tons.

Through this performance, the Great Northern contributed to national defense in a very marked way in 1941. It and every other railway engaged in handling ore are prepared to do even better in 1942 than they did in the record 1941 season, during all of which time they maintained a reserve capacity of rail transportation, despite the unusually heavy demands made on them. The steel industry is geared to much greater efforts in 1942, but need have no fear that its demands for ore will be interfered with by any lack of rail transportation.



An Ore Train from the Range Moves Onto the Main Line at Gunn, Minn.



80-Ton Diesel-Electric Locomotive Built by Whitcomb

Alcoa Terminal Gets New Whitcomb Diesel-Electric Switcher

80-ton locomotive is powered with two Buda supercharged Diesel engines and Westinghouse electric drive

THE Whitcomb Locomotive Company, Rochelle, Ill., has recently added a Diesel-electric switcher to its line of internal combustion locomotives; the one illustrated was built for use on the Alcoa Terminal Railroad. It is an 80-ton unit, powered with two Buda 325-hp. supercharged Diesel engines, with Westinghouse electric drive to each pair of truck wheels. The locomotive is designed to develop ample power for snappy performance in switching and spotting cars, as well as road work at speeds up to 40 miles per hour. With a normal rated tractive force of 40,000, the locomotive is said to develop 53,330 lb. tractive force with the use of sand.

A unique feature of the design is the arrangement of the power-plant assemblies. Each engine-generator unit is set on a common sub-base, mounted on the locomotive frame. Instead of the usual way of mounting the engine, the Buda engines are turned around, with radiators next to the cab. Adjustable shutters on each side of the head of the cab control air inflow to the radiators, maintaining even water temperature in both engines. This arrangement permits complete accessibility to the generators for inspection, and improves visibility for the operator.

The Buda engines are new supercharged models that have been recently developed to meet the demand for more horsepower within limited space such as locomotive installation requires. The engines, known as Buda-Lanova 6-DHS-1879 Diesels, are six-cylinder units of 1,879 cu. in. piston displacement, with a 6 3/4-in. bore and 8 3/4-in. stroke. They develop 340 hp. at 1,200 r. p. m.

Allowing deductions for accessories, they are rated at 325 hp. net.

Running Gear

The running gear of this locomotive consists of two four-wheel side-equalized swivel trucks. The truck frames are built up of rolled-steel shapes and plates securely welded together. Oil lubrication is provided for truck center plates which are integral with truck frames and are equipped with renewable steel liners. The pedestals in truck frames are equipped with steel wear plates. Side bearings are equipped with an anti-slewing device. The oil-tempered steel coil springs rest on the steel plate twin equalizers, which are flame-cut to shape and ground smooth.

The wheels are rolled steel 36 in. in diameter. The axles are 7 in. in diameter at the motor bearings and are of carbon steel, heat treated and machined all over. The 6-in. by 11-in. journal bearings are of the friction type. The journal boxes are of cast steel, with hinged lids and have renewable steel pedestal liners. The babbitt-lined brasses are of A. A. R. standard design.

Superstructure

The underframe consists of rolled-steel shapes and plates, thoroughly braced and reinforced, and is of welded construction. The body center plates are integral with the underframe. The heavy center sills have provision for mounting the engine and generator sub-base. The

deck plates are furnished with roughened surfaces on the walkways. In addition to the usual front and rear switchman's footboards, there are four side-step wells and necessary handrails and handholds. The locomotive couplers are of the full-size A. A. R. 6-in. by 6-in. short-shank-type located with coupler pockets bolted to the bumpers. Transportation Devices Inc. rubber draft gears are installed at the front and rear.

The centrally located cab is fabricated of rolled-steel shapes and plates, welded together and securely bolted to the underframe for easy removal. The cab floor is of

Principal Weights and Dimensions of New Whitcomb Diesel-Electric Switcher

Weight in working order (approx.), lb.	160,000
Truck wheel base, ft.	7
Truck centers, ft.	24
Wheel diameter, in.	36
Length over bumpers, ft.-in.	39-11 $\frac{1}{2}$
Length between coupler pulling faces, ft.-in.	44- $\frac{1}{2}$
Width overall, ft.-in.	9-10
Height overall, ft.-in.	14-0
Engines: two Buda Type 6-DHS-1879, hp. (each)	325
Traction generators: Two Westinghouse 181-L railway type	
Traction motors: Four Westinghouse 571-S-6 railway type	
Gear ratio (single reduction)	16 to 79
Control: Single station, remote, electro-magnetic	
Maximum tractive force*, lb.	40,000
Maximum permissible speed, m.p.h.	43.5
Minimum track curve radius for safe operation, ft.	75

*Without sand and based on 25 per cent adhesion; 53,330 lb. with sand and based on 33 per cent adhesion.

safety-tread steel plate with wood covering at the operator's position, and provided with trap doors, for easy access to batteries, located underneath the cab. The cab is fully enclosed, with shatterproof glass windows having steel sash. The side windows are of the sliding type; front and rear windows are stationary. The diagonally located cab doors are of steel with stationary shatterproof glass windows. The cab is insulated with Stonefelt and lined with Masonite Prestwood.

The hoods are of heavy steel construction bolted in place for easy removal. The hood doors are of the vertical hinged type for easy access to equipment from both sides of the locomotive. Screened openings in hood sides, ventilators in hood doors and hood top give complete engine-compartment ventilation.

Power Plant

Each of the two Buda 325-hp. Diesel engines is completely equipped with fuel-transfer pump, fuel-injection pump, fuel filters, water-circulating pump, lubricating-oil pump and filter, thermostat, governor and throttle device, oil-bath type intake air filter, belt-driven fan assembly, supercharger and necessary engine tools. Mounted on each engine is a 32-volt automotive-type electric starting motor. A regulated 32-volt, 750-watt automotive-type battery-charging generator is mounted on each engine, furnishing auxiliary power over the whole speed range of the engine. A 32-volt heavy-duty lead-acid-type battery supplies power for engine starting, the light circuits, etc. The battery is placed in a ventilated compartment under the cab floor and is easily accessible through trap doors in the cab floor or cab side inspection doors.

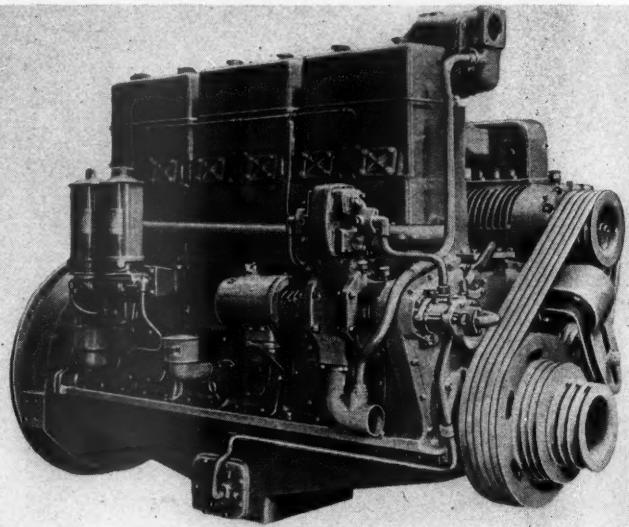
The exhaust from each engine is carried through a muffler at the front and rear of cab, respectively, out an exhaust outlet on top of the cab. The fuel tank, equipped with adequate splash baffle plates, has a capacity of 400 gal., and is fitted with a capacity gage and Protectosel fuel filler on one side of the locomotive. The tank has a sump and drain. The fuel line of each engine is equipped with a spring-operated safety fuel shut-off

valve, which can be tripped from the inside or outside of the cab.

The engine-cooling system consists of two radiators located under the hood at each cab end, air cooled by engine-driven suction-type fans. Each radiator has sufficient capacity to insure adequate cooling. Cooling cores are of the sectional core type. Adjustable shutters on each side of the hood are manually operated from the inside of the cab.

Each engine is directly connected to a Westinghouse Type 181-L single-bearing separately excited generator having a continuous rating (each) of 480 amp. and 500 volts at 1,200 r. p. m. The exciter is overhung on the generator end frame. The generators have Class B insulation and are self-ventilated with shaft extension for auxiliary drives. One end of each generator armature is supported by an anti-friction bearing and the other is connected through a laminated steel-disc flexible coupling to the engine flywheel. Each engine-generator unit, including radiator, air compressor, blower and auxiliary generator, is supported on a common sub-base of welded rolled-steel shapes and plates, which, in turn, is mounted on the locomotive underframe.

The four Westinghouse Type 571-S-6 series-wound axle-hung traction motors are of the single-reduction type, with Class B insulation and have a continuous rating of 250 amp., 500 volts, when blown with 1,000 cu. ft. of air per min. per motor. The motors are spring suspended. The motor gear ratio is 16 to 79 with 36-in.



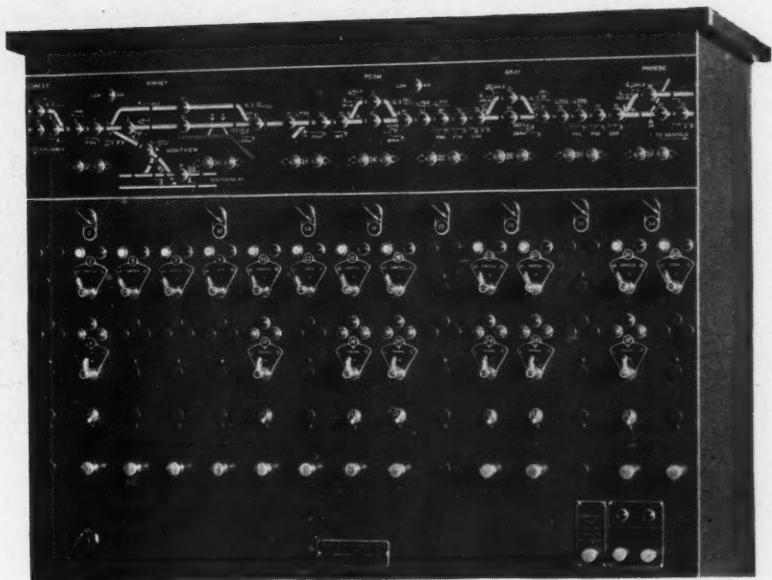
One of the Buda 325-Hp. Supercharged Diesel Engines

diameter wheels and the maximum allowable motor speed is 2,000 r. p. m. Each motor is equipped with two split-type oil-lubricating suspension bearings, by means of which it is mounted on the axle. The armature bearings are of the anti-friction type. The gearing is totally enclosed. The clearance from the top of the rail to the bottom of the motor gear case is 4 $\frac{1}{8}$ in.

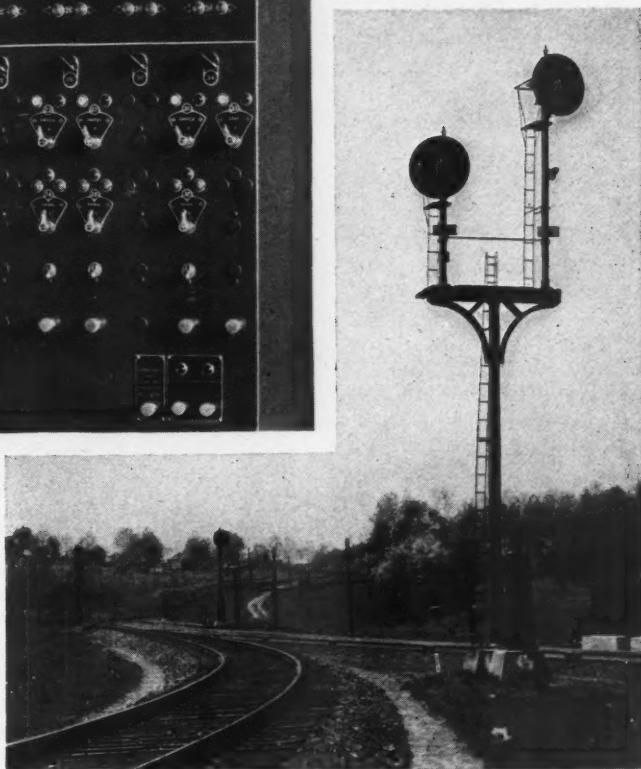
Two Sirocco blower fans, directly driven off generator shaft extensions, furnish 2,000 cu. ft. of air per min., each, for traction-motor force ventilation. The air is blown through the center sill of the underframe, then through truck center plates to the motors.

The locomotive is equipped with Westinghouse single-station, remote electro-magnetic control with operator's station at the right hand side of the cab. Arranged at the control station is the throttle lever, reversing mech-

(Continued on page 379)



Right—Panel Of the Control Includes Eight Traffic Direction Levers Mounted Just Below the Track Diagram. Below—Signals 12LS and 12M At the East End Of Kinney



Switches operated by power machines, spring mechanisms or hand-throw stands, according to the requirements

C. T. C. on the Norfolk & Western

THE Norfolk & Western has installed centralized traffic control between Phoebe, Va., and Forest, on a 22-mile single-track belt line around Lynchburg, Va. This belt line, which has a maximum grade of 0.5 per cent, handles practically all of the freight trains in both directions. The average daily traffic includes about 20 N. & W. freight trains, in addition to 6 passenger trains of the Southern which use that portion of this territory between Kinney and Forest. The original line between Phoebe and Forest, also single track, with a maximum grade of 0.94 per cent passes through Lynchburg, and is used primarily for passenger trains, although light-tonnage trains can also be handled over it.

As a part of an extensive signaling replacement program on various sections of this road, the semaphore signaling on both lines between Phoebe and Forest has been replaced with modern position-light signaling, and in addition, centralized traffic control has been installed on the 22-mile single-track belt line, the control machine being located in the tower of the interlocking at Forest. This C. T. C. installation is of special interest for several reasons. In the first instance, the switches were equipped in accordance with the requirement of service and practices of train operation. In view of the fact that the through trains use only certain passing tracks, the new installation of power switches and spring mechanisms was confined to these passing tracks. A major portion of the freight traffic consists of loaded

coal cars eastbound and empty coal cars westbound; therefore, eastbound trains are given preference and hold the main line while westbound trains take siding for meets. For this reason, at certain passing tracks the east end switches are equipped with power machines, but oil buffer spring mechanisms with mechanical facing-point locks were installed at the west switches. At other passing tracks, which are not used ordinarily by through trains, the hand-throw stands remain in service. On certain other switches at connecting tracks and at certain crossovers, which are used only under special circumstances, electric switch locks, controlled by the C. T. C. system, were installed.

Track and Signal Layout

The track and signal diagram shows only the belt line between Phoebe and Forest. Ordinarily only westward trains use the passing track at Phoebe, and, therefore, the west end switch is equipped with an oil-buffer spring switch mechanism so that westward trains can pull out without stopping. The eastward signal, as well as the two westward signals at this switch, are controlled from the C. T. C. machine.

The passing track at Bray is not ordinarily used by through trains, and, therefore, the existing hand-throw switch stands were retained in service. The new signals at each end of this passing track, however, are controlled by the C. T. C. system. If a westbound train,

for example, is to be directed to take siding, the "take-siding" aspect is displayed on the mast of the westward station-entering signal 28L. After the train has stopped and a trainman has reversed the switch, a 45-deg. aspect is displayed on the lower arm of signal 28L, thus authorizing the train to enter the passing track, after which a trainman returns the switch to normal. When a westbound train, for example, is to be directed to depart from the Bray passing track, a "leave-siding" aspect is displayed on the westward signal 24LS, which directs that a trainman is to reverse the switch, after which the signal 24LS displays either a 45-deg. or a 90-deg. position-light aspect, depending whether one or two automatic blocks are unoccupied. After the train is clear of the passing track, a trainman returns the switch to normal.

The passing track at Posm is used by westbound freight trains when taking siding for meets with eastbound trains. For this reason, a power switch machine, under control of the C. T. C. operator, was installed at the east switch, and a spring switch mechanism with an automatic mechanical facing-point lock was installed at the west switch. The new signals at each end are controlled by the C. T. C. system.

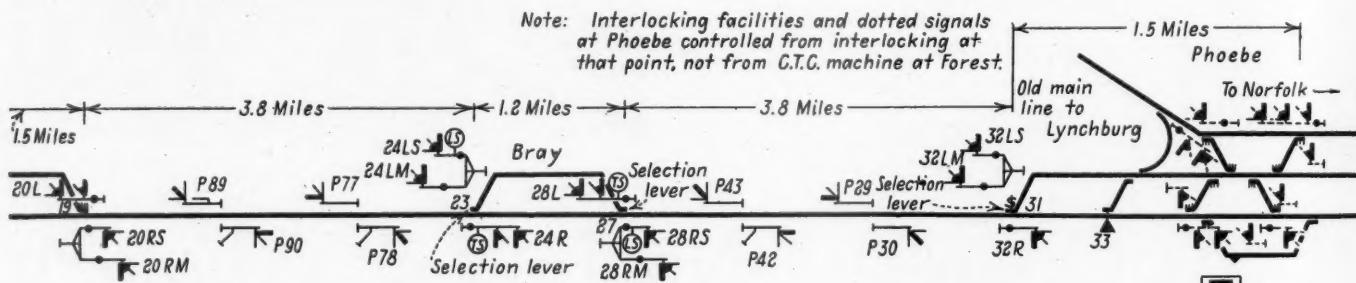
At Kinney, on the belt line, there is a junction with a single-track line which extends 0.4 mile to Montview

is included in the interlocking. Electric switch locks on certain hand-operated switches, as indicated on the diagram, are controlled by the C. T. C. operator.

In order to clear an eastward interlocking signal governing to the belt line, the leverman at Forest must first manipulate the C. T. C. machine to effect an unlock, provided the traffic lever is not already in the proper position. Likewise, before the leverman at Phoebe can clear a westward interlocking signal governing to the belt line, the corresponding traffic lever in the C. T. C. machine at Forest must be in the proper position, and the same arrangement applies when the leverman at Montview is to clear an interlocking signal for a train to go from Montview to Kinney. The semi-automatic signals at the various passing tracks on the belt line and at the junction at Kinney are, of course, controlled from the C. T. C. machine. With this arrangement, all train movements are directed by signal indications which supersede time-tables and train orders.

No Local Line Control Circuits

The new signaling system is of the straight a-c. type. On the passing sidings, conventional-type neutral a-c. track circuits are used, but on the sections of main line between towns, as well as within station limits, coded



where a connection is made with the double-track main line of the Southern between Washington, D. C., and Atlanta, Ga. Certain trains of the Southern enroute to and from Knoxville, Tenn., or beyond, are routed over the Norfolk & Western tracks via Montview, Kinney, Forest and Bristol, Tenn. When making the change-over to C. T. C., the interlocking on the Southern at Montview was continued in service but the mechanical interlocking at Kinney was removed, the new power switches and new semi-automatic signals being included in the C. T. C. system. The C. T. C. operator also has charge of trains enroute between Kinney and Montview. The connecting track from the Montview-Kinney line, which curves to the south at Montview, is not used in regular through train service, and, therefore, this switch is operated by a hand-throw stand, and the new electric lock on this switch is controlled by the C. T. C. operator at Forest.

The junction switch at Kinney as well as the switch at the west end of the N. & W. passing track at Kinney are equipped with new power switch machines. As this passing track is used ordinarily by through freight trains, a power-switch machine, under control of the C. T. C. operator, was installed at the east end. The switch at the east end of the passing track at Forest is equipped with a power machine, controlled by the C. T. C. operator, so that trains can enter or depart from this passing track without stopping, and the signals, controlled by the C. T. C. system, are arranged accordingly. The switch at the west end of the Forest passing track

a-c. track circuits are used, not only to accomplish the automatic controls of signals with reference to track occupancy, but they also enter into the circuits of the traffic-direction station-to-station control of station-leaving semi-automatic signals, the indications of which direct train movements under the control of the C. T. C. operator. With this arrangement, no line circuits, other than the two C. T. C. line wires, are required for the control of signals or power switches.

On the new C. T. C. control machine at Forest, eight traffic-direction levers are mounted in a row just below the illuminated diagram, each of which can be operated either to the left or to the right position, but there is no center position. A traffic-direction lever is provided for each section of single-track between opposing station-leaving head-block semi-automatic signals; likewise, a traffic-direction lever is provided for the territory within the limits of each passing track on the main line only. Just above each traffic-direction lever, on the diagram, is an indicator, including two arrows and two blue lamps, one or the other of which is lighted to show the direction for which traffic is established in the section controlled by the corresponding lever below. Other than these special traffic-direction features, the control machine is of the conventional type.

General Construction Features

The new position-light signals are the PL-2 type equipped with deflecting prism cover glasses instead of



One Of the Dual-Control Electro-Pneumatic Switch and Lock Machines

the novial conical cover glasses, as used on the conventional type. The new deflecting lenses increase the spread of the light beam which is of advantage on curved track. Each of the power switches is operated by a

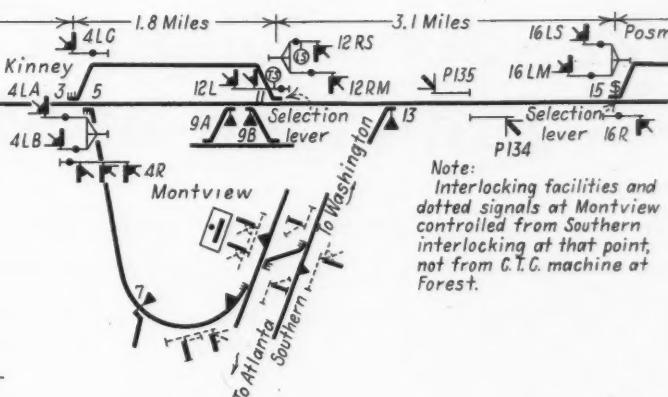
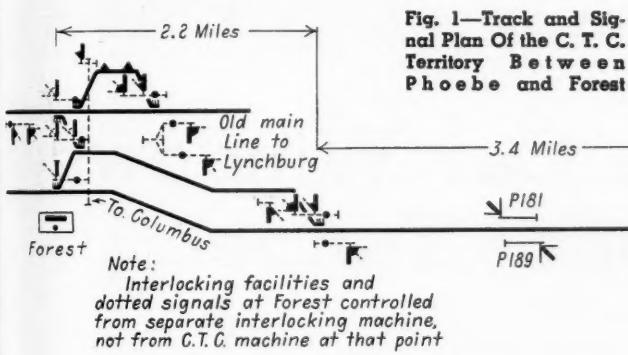
and signals. The major items of equipment were furnished by the Union Switch & Signal Company.

Alcoa Terminal Gets New Whitcomb Diesel-Electric Switcher

(Continued from page 376)

ism, brake valve, sander valve, bell and horn control, window-wiper controls, engine starting switches, gage panel and tumbler switches controlling the lights. The direction of motion of the locomotive is selected by placing the reverse lever in the proper position when the throttle lever is in idling position. The locomotive speed is controlled by the throttle lever which regulates the Diesel engine output and is also interlocked with the electrical control. This interlocking establishes the necessary electric circuit to provide proper application of power to the traction motors and also prevents reversal of the motors under power. Two motors are connected to each generator, arranged for series and parallel operation with field shunting in parallel. Automatic transition from series to parallel and from parallel to shunt field is provided.

The illuminated instrument panel includes water temperature gages, lubricating-oil pressure gages, battery ammeters, air-brake gages, and the necessary starting, light and dimming switches. The wiring is concealed in a cabinet or in conduit where possible and conforms to the latest and accepted standards. Jack-knife connectors are used on motor lead cables.



Type A-20 dual-control electro-pneumatic switch machine. When the selector lever is operated, the air supply to the switch machine is cut off, the valve control circuits are opened, and a code is sent to the office, indicating an open switch and an occupied track circuit. Each selector lever is locked with a standard switch padlock in order to prevent unauthorized movement of this lever. The hand-throw lever is, of course, also padlocked. Each switch layout is equipped with the standard arrangement of lock rods and a point detector which is set to operate if the switch point is open more than $\frac{3}{16}$ in. In addition to the spring and oil buffer arrangement at each spring switch, a Model T-20 stand with an automatic mechanical facing-point lock is provided, thus giving locking protection equivalent to that of interlocking for all moves on the main line. Each switch layout is equipped with three $\frac{3}{4}$ -in. by 7-in. insulated gage plates, with Ramapo adjustable rail braces. An adequate number of rail anchors are installed to prevent creeping of the rail and resultant improper operation of the lock rods.

This signaling project was planned and installed by the signal forces of the Norfolk & Western, under the direction of D. W. Richards, superintendent telegraph

The foundation brake rigging is of the lever-type, fully equalized to all wheels, with A. A. R. type brake-shoe heads and flanged shoes operating on each of the eight wheels. The brake ratio is approximately 75 per cent at 50 lb. cylinder pressure. The air-brake schedule is Westinghouse straight and automatic type 14-EL with one Type K-14 engineer's valve. Two brake cylinders are mounted on each truck. Main-reservoir capacity is approximately 50,000 cu. in. All air-brake equipment is installed in accordance with standard practice and the latest instructions of the Westinghouse Air Brake Company. A wheel-type hand brake, provided for holding the locomotive while at rest, is applied to one truck.

Two Gardner Denver air-cooled two-stage air compressors, $6\frac{1}{4}$ -in. by $3\frac{1}{2}$ -in. by 4-in. are belt driven off generator-shaft extensions. The compressors are suitable for operation against a reservoir pressure of 200 lb. Each compressor has a displacement of 62 cu. ft. per min. at 870 r. p. m.



Smudged by Steam, Soot and Condensation in Passing Through the 6.21-Mile Moffat Tunnel, Blotting Out Striking Scenic Views at Each Portal, Passenger Car Windows Are Now Washed by Simple, Yet Effective, Arrangements of High and Low Pressure Water Nozzles



Washers Clear Up Car Windows Smudged in Moffat Tunnel

Relatively simple installations at both portals, made by D. & R. G. W., overcome heavy accumulation of condensation and soot which marred scenic view

UNTIL recently, the extensive accumulation of moisture and soot on the windows of Denver & Rio Grande Western passenger trains passing through the long Moffat tunnel of the Denver & Salt Lake, blotting out miles of mountain scenery beyond each portal, was a matter of considerable annoyance to passengers and of great concern to the railroad. Now, waterspray washing systems are in use at both tunnel portals, which flush all windows as trains move out of the tunnel, overcoming the former unsatisfactory situation. The systems installed are relatively simple and are manually controlled, but incorporate a number of features essential to their effectiveness under the conditions presented, features that became apparent only after careful consideration of the problems presented.

High Humidity in Tunnel

All tunnels under steam locomotive operation tend to foul equipment with smoke and soot, and there are many tunnels on the D. & R. G. W.-D. & S. L. route over and through the Continental divide. However, the only

tunnel that has presented serious difficulties on this line is the long Moffat tunnel, 6.21 miles from portal to portal, with ascending grades both ways to a point near the center. In this tunnel, where a few hundred feet back from each portal the temperature remains uniformly at approximately 60 deg. F. throughout the year, the exhaust steam from locomotives raises the humidity of the air to a point where rapid condensation takes place on the windows of cars, leaving a heavy film of soot-laden moisture that obstructs all view as trains emerge from the tunnel.

With unusual mountain scenery one of the special appeals of the Moffat Tunnel route through the Rockies, and striking views immediately beyond both portals of the Moffat tunnel, it is not surprising that the defacing of these views, if not obliteration of them, by wet, sooty car windows, was a source of annoyance and concern. It is true that evaporation, especially on dry days, dried the windows within a few miles from the tunnel, but they still remained sooty and the situation was anything but pleasing to passengers.

For more than a year and one-half now a remedy for

this situation has been under consideration and several methods of semi-automatic window washing have been tried with different degrees of success. The method finally installed is proving highly effective, and the very effort on the part of the railroad to cleanse the car windows in their interests, is being accepted with a sense of appreciation by patrons.

Systems Relatively Simple

From the start, consideration of a plan for washing the car windows was predicated on some form of spray system that would cleanse the windows as trains moved by at slow speeds, but without stopping, and without any attempt to dry the glass manually or by means other than normal evaporation. However, it was soon learned that due to the normal rapid evaporation of the condensation that collected on the windows, leaving much of the soot firmly attached to the glass, any attempt at washing by flushing with water, to be effective, must be made directly at, or just inside, the tunnel portals. Therefore, instead of installing the washing systems a few hundred feet or more beyond the portals, as might have been most desirable from the standpoints of use and drainage, the system at the east portal was installed 110 ft. inside the tunnel. The system at the west portal, on the other hand, because of lack of adequate clearance for its installation within the tunnel itself, was installed directly on the face of the portal.

In each case the system is a simple arrangement of high and low pressure nozzles, which, mounted on ver-

3 ft. 1 1/2 in., directly opposite the position of car windows.

Of the six nozzles, the lower five, under a static head of approximately 70 lb., and directed backward into the tunnel so that they strike the glass at an angle of approximately 80 deg., throw a fan-like spray of considerable force against the windows, producing a dirt-loosening and washing action. The top nozzle, on the other



Close-Up View of the Washer at the West Portal

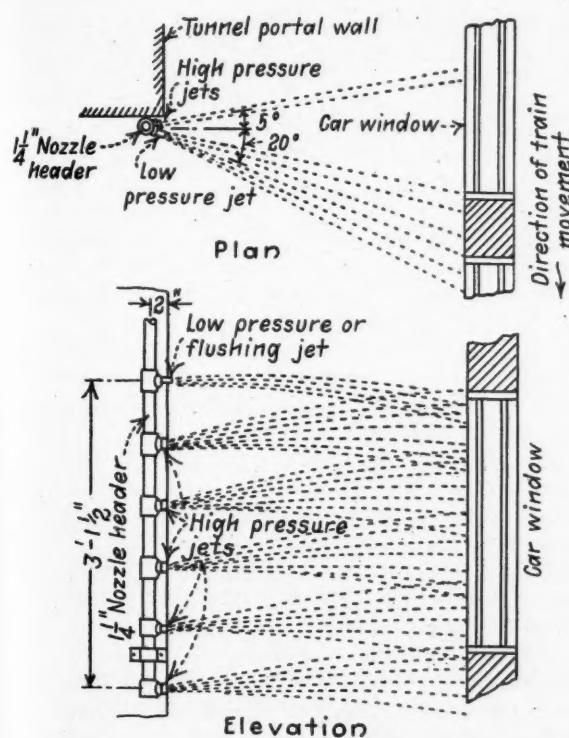
hand, which is a low-pressure nozzle of considerably more volume than the lower nozzles, is designed to produce a flushing action, and to this end is directed forward from the other nozzles so that its spray impinges along the tops of the car windows momentarily after the dirt has been loosened from them by the washing sprays. The result of this action of the top low-pressure nozzles is to produce a rinse, to carry off loosened soot and cinders, which has proved highly effective.

The washing systems at both ends of the tunnel are supplied by local water supplies and are controlled manually, or semi-manually. At the east portal, the water supply is secured from a mountain spring and is fed directly to the tunnel by gravity in a 4-in. line. At the west portal, the supply is secured from a mountain stream, and, as at the east portal, is brought to the tunnel in a 4-in. gravity line. Waste water from the operation of both washers is drained off at tunnel drainage pick-up boxes along both tunnel walls directly at the washers.

At the east portal, operation of the washer is controlled manually by the tunnel ventilating fan operator, located in a control room directly at the portal. Upon the receipt of an electric warning signal produced by the approach of an eastbound train through the tunnel, he puts the washer into operation by opening a hand valve. Then, immediately after the train has passed, he closes the supply valve. During the winter months, following each use of the washer, he also opens other valves which quickly drain the washer pipe system, thus preventing its freezing.

At the west portal, the washer is controlled by the agent at the road's Winter Park station; located approximately 4,000 ft. west of the portal. As a westbound train enters the east portal, the fan operator at that portal notifies the agent at Winter Park by telephone. Then, a few moments before the train is due to

(Continued on page 386)



Plan and Elevation of the High and Low Pressure Nozzle Arrangement in the Car Window Washers

tical headers approximately 3 ft. back from the side faces of passing cars, throw a solid curtain of water against the windows on opposite sides of trains, as the trains move by at a speed of about two miles an hour. Each of the headers, which is made up of 1 1/4-in. galvanized pipe, connected overhead, contains six nozzles spaced approximately 7 1/2 in. center to center over a height of

Revolutionary Economic Changes and How They Will Hit the RRs

Rio Grande finds systematic analysis points way to revenue protection
—But task is no spare-time assignment

By R. B. Eagleston

Supervisor Traffic Research & Statistics, D. & R. G. W.

"If we could first know where we are, and whither we are tending, we could better judge what to do and how to do it."

THOUGH penned almost a century ago, that simple statement by Abraham Lincoln describes as well today as when it was first written the nature and importance of advance planning. Likewise, it describes a type of economic or commercial research which is sorely needed by our railroad industry today.

During the last decade, American railroads have established an enviable record for their progress in the field of technical research. That such efforts have been worthwhile is well attested by such things as increased train speeds, better roadbeds, finer rolling stock, safer and more efficient operations, and a thousand other things. Unfortunately, it cannot be said that our analytical progress has been comparable in the more directly commercial or revenue-getting aspects of our operations. Admittedly, we have not displayed the same degree of interest or resourcefulness in solving the economic problems connected with our business as we have displayed in solving the physical ones.

Revolutionary Economic Changes Now Occurring

The importance of railroads jointly and individually giving more consideration to this field of research is forcefully emphasized by the present emergency. Every major war in modern history has been marked by a period of significant economic change. With our nation today engaged in the greatest war effort in world history, doubly revolutionary changes may logically be expected to accompany its termination.

Already fundamental alterations in industrial patterns may be seen, growing out of our defense needs and the unparalleled program this country has undertaken to expand its industrial facilities. According to a recent U. S. Department of Commerce report, federal government appropriations for new plant and equipment, up through August 31, 1941, totaled 6.2 billion dollars, of which some 3.6 billion dollars had been awarded in contracts. In addition, up to the same time, manufacturers themselves had financed a one-billion-dollar plant expansion for defense. The magnitude of this outlay is appreciated when it is realized that it compares with a net book value of all manufacturing plant and equipment estimated to have been 22.5 billion dollars in 1940¹. An indication of the size and character of the defense contracts thus far awarded for expansion of industrial facilities is shown in Figs. 1 and 2.

Great and complex new industries are in the process of being created, old ones are being expanded, and others

are being forcibly curtailed. Radically different products are being developed and introduced. Far-reaching technical changes in production methods are the order of the day. Along with these changes and as a result, very important shifts in the relative industrialization of various areas are taking place. Of course, what has already occurred in the way of an industrial revolution, arising from our defense effort, is only a drop in the bucket compared to what will happen throughout the current year and 1943.

Defense Plants Are Shifting Geography of Industry

Further additions to the country's defense plant program will come, but government reports already show certain important trends. Noteworthy in this connection is the fact that while those sections which in the past have been most heavily industrialized—New England, the East, and the Great Lakes Region—although to date still receiving more than three-fifths of the funds allocated for new defense facilities, have nevertheless a smaller percentage of the aggregate new plant than they possessed of the old. On the other hand, even though receiving a smaller share of these expenditures, those states identified as the West North Central states, the Rocky Mountain Region, and the South are improving their relative industrial position.¹

This significant trend is clearly shown in Fig. 3, comparing the regional allocation of funds for defense facilities with the geographical distribution of the value added by manufacturers in 1939. Our East North Central Region (includes the Chicago and Detroit areas as well as the territory bordering on the Great Lakes) is a good case in point. Whereas this section produced 31.5 per cent of the value added by manufacturers in 1939, it held but 19 per cent and 28 per cent respectively of the contracts awarded for defense supplies and industrial facilities through August of last year.¹ The West North Central, the East South Central, the West South Central, and the Mountain areas are getting defense industries out of all proportion to their previous importance as manufacturing centers.

Now that our nation is at war—and actually engaging the enemy on both of its ocean fronts—even greater emphasis may be expected to be given in the future to the industrialization of these interior regions at the expense of the coastlines. Assurance that these shifts will not be temporary is found in the new inland power projects which have already been built and which are contem-

¹ Source: U. S. Department of Commerce—Survey of Current Business, November, 1941

plated for the future; the greater weight being attached to proximity to raw materials in industrial location; the much more fluid character of the American labor market and the fact that the trend toward industrial decentralization has already been under way for some ten years.

Gigantic Airplane and Shipbuilding Expansion

These important industrial trends cover only one phase of the subject and indicate only indirectly why American railroads jointly and individually may well afford to ex-

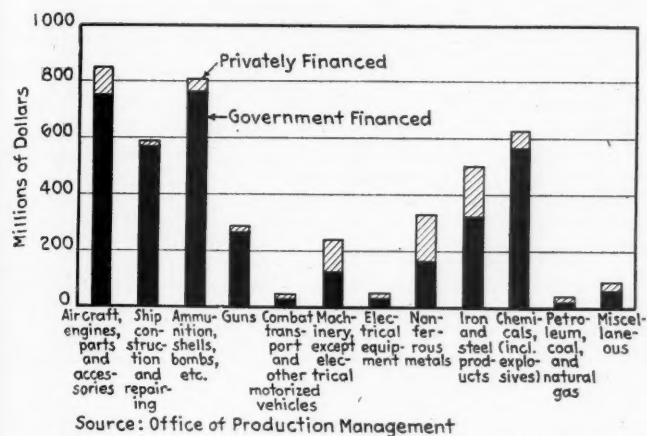


Fig. 1—Value of Defense Contracts for Industrial Facilities Financed with Government and Private Funds Through August 31, 1941, by Industries

pand their activities in the field of business or economic research. More indicative of the need for careful and resourceful business planning from an immediate point of view are the competitive problems which have been greatly accentuated by the present war effort and which, with the termination of this war, may be expected to dwarf by comparison any problems our American railroads have faced in the past.

Speaking only in terms of federal authorizations made up through August 31, 1941, over \$10,782 million dollars has been appropriated for the construction of naval and merchant ships while over \$12,528 million dollars has been authorized for the construction of aircraft.² Neither of these figures include the 1,435 million dollars which had actually been awarded by August 31 last year for the construction of plant facilities to build these vehicles of transportation or the far greater sums which have been approved since the outbreak of war, December 7, 1941. One needs to be no clairvoyant to prophesy that these figures spell competition for the future—the like of which has never yet been seen.

Certainly such facts lend credence to the prediction made recently by the president of the National Aeronautics Association, Captain Gill Robb Wilson, that, "Combat aircraft moving at 400 miles per hour, 35,000 feet above the earth will be the couriers of tomorrow's commerce"—and that "Bombers capable of carrying a load of 20 tons a third of the way around the earth without refueling are the forerunners of the cargo and passenger ships of post-war transportation."³

That air cargo is not an idle dream is evidenced by the fact that *already aircraft is being built which can operate a distance of 1,500 miles at 200 miles per hour*

with a cargo load of more than 8 tons at an over-all cost of less than 7 cents per ton-mile. Obvious are the implications when it is realized that our rail express traffic moves at approximately 10 cents a ton-mile and at an average speed not in excess of 45 miles per hour. Certainly the air industry has the history of transportation on its side when it reasons that the passenger who travels through the skies at 300 miles an hour may be expected to place a similar value on the speeds at which his merchandise travels.

With the present war primarily one of machines, obviously competition in the future will be keener on the land as well as in the air and on the water. Just as World War No. 1 gave birth to the trucking industry, private automobiles, and improved highways, the termination of the present war will find highway transportation occupying an even more dominant role in our economic structure. No less foreboding is the greater competition we may expect from pipelines.

Although few industries are better informed than American railroads—thanks in part to the fact that as a highly-regulated and highly-competitive industry we have been forced to keep close tab on practically all phases of our operations, for the most part the wealth of valuable economic data which has been compiled in this connection in the form of statistics and reports has been used for the *solving of current rather than long-range problems.*

Vital Questions—and the Answers Are Available

Only relatively little, as yet, has been done in the way of gathering these pieces of information together by regions—or analyzing them in conjunction with equally significant data available on production, distribution, and consumption trends in those same regions—and, from this maze of facts, discovering and capitalizing upon the

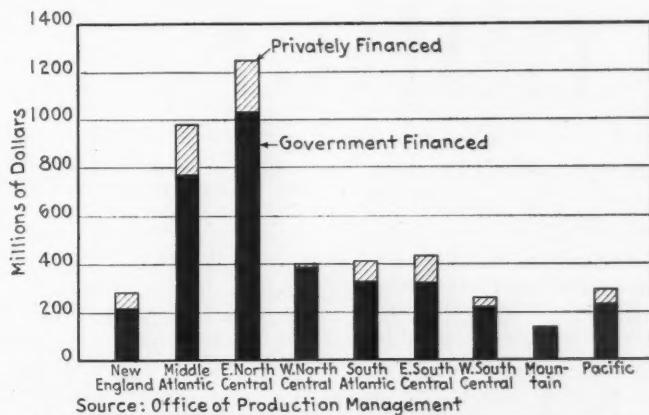


Fig. 2—Value of Defense Contracts for Industrial Facilities Financed with Government and Private Funds Through August 31, 1941, by Geographic Regions

vital stories they are capable of telling with respect to such pertinent questions as:

1. Where are revenue losses occurring, why, and what is necessary to stop or offset them?
2. Which industries and communities along a particular line are declining in traffic importance; why, and what, if anything, can be done to rehabilitate them?
3. What proportion of the potential traffic is each railroad handling and how can it secure a larger share?
4. Which freight rates are fair and remunerative, which are excessively high, and which are inadequate—as measured by

² Source: Bureau of Research & Statistics, Office of Production Management.

³ Address November 8, 1941 at Washington and Jefferson College, Washington, Pennsylvania.

prices, transportation costs, market, competitive requirements, etc.?

5. How can sales or traffic solicitation efforts be made more effective—through training programs, better sales incentives, more efficient sales controls, etc.?

6. What are the transportation needs and problems of this or that industry—also, disregarding selfish interests and considering all raw material, conversion, distribution, and market factors, which is the most economically sound location for this or that industry?

7. What undeveloped resources and industrial opportunities are present in a particular territory and how may they be developed?

8. All things considered, which transportation services are economically justified, which are not—which should be improved, which should be abandoned, etc.?

9. Where are there duplicate transportation facilities or services whose elimination, pooling, merger, or consolidation would be desirable from the standpoint of all parties concerned?

10. What is the long term outlook for this company, its competitors, and the territory it serves—and what, if any, steps should now be taken to anticipate same?

The foregoing are not listed with the thought that they are either new problems to management, or that they

their mode of transportation. The first is largely uncontrollable as far as direct preventive measures are concerned and manifests itself in the form of traffic and revenue losses growing out of:

A. Depletion of natural resources—such as coal, ore, petroleum, etc.

B. Technological improvements in production methods; also changes in consumers' buying habits—resulting in the closing of outmoded factories, introducing of new or better products, shifting of sites of operations, etc.

C. Unfavorable business conditions — resulting from depressions, drouths, legislation, etc., and precipitating changes in production, marketing or distribution practices.

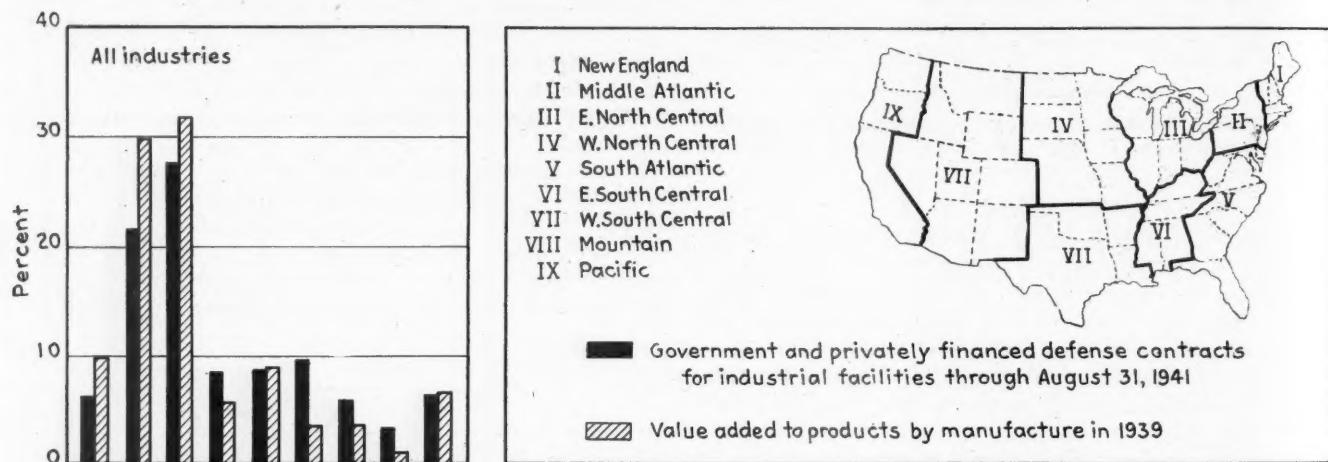
The second mentioned force, is of course, the outgrowth of competition; such losses in turn being capable of being traced back to one or more of the following causes:

I. Rates or fares which are lower, more liberal, etc.

II. Service—when superior as to speed, flexibility, completeness, reliability, safety, comfort, etc.

III. Sales efforts—which are more effective, because salesmen are more carefully selected, better trained, supported with better advertising, etc.

Naturally, these two classes of forces are at work con-



Source: U. S. Dept. of Commerce, Survey of Current Business, Nov., 1941

Fig. 3—Percentage Distribution by Regions of Government and Privately Financed Defense Contracts for Industrial Facilities Through August 31, 1941, Compared With the Value Added to Products by Manufacture in 1939

are representative of more than a few of the many on which American railroads might advantageously devote more searching and resourceful thinking. They are listed merely because they are representative of many problems whose magnitude justifies more thorough investigation and analysis than the average officer, swamped with routine work, is in a position to devote to them. They represent basic problems upon whose satisfactory solution hinges a carrier's long-term as well as its current earnings. They are not the type of questions which can be answered by a mere cursory examination of traffic, revenue, or expense data.

It is in the freeing of qualified men to do a more thorough and scientific job of studying these problems that economic research holds promise.

This Kind of Work Is No Spare-Time Job

Fundamentally, of course, all such problems relate back to the fact that railroad traffic and revenues are adversely affected by two types of economic forces—one which results in the actual elimination of items of traffic, and one which merely results in a change in

stantly and operate in a subtle and interrelated manner. It is because of this and the further fact that the solution of any problem (by other than hit-or-miss methods) demands a thorough knowledge of the underlying factors giving rise to it, that economic research comes into play. It is the job of economic research to study the effect of these forces, to isolate the problems and losses they are responsible for, to determine their cause, and to discover ways and means of offsetting or overcoming them.

What Situations Need to Be Investigated?

While there is nothing mysterious about such work, it does call for men with imagination and a rounded knowledge of railroad, business, and research fundamentals. Basically such work may be said to involve four steps: (1) Locating problems; (2) Finding facts; (3) Analyzing facts; and (4) Interpreting facts.

Definition of the problem is the first prerequisite. Often it is only through the careful compilation and analysis of many different types of data, long-term trends, etc., that revenue leaks can be detected and problems defined. In the case of most products, there is

a wealth of information available on vital production and consumption trends, which when studied in the light of a railroad's own traffic, quickly reveals where weak spots are located. Needless to say, many of these significant trends are suspected if not definitely known by railroad officers, but like so many things, so often no one feels he has the time necessary to investigate fully and report on the significance of these suspected trends. Somebody needs to be given the *responsibility* to do the flagging, or, often, the flagging will not be done.

Field surveys, interviews with shippers and receivers, an ever-questioning attitude by officers and employees, rate hearings, news releases—all represent avenues along which clues to subjects worthy of careful investigation may be found. Efficient research requires that problems be clearly defined before their solution is tackled.

Once located and defined, the problem simmers down to a matter of assembling all available pertinent facts and then analyzing and interpreting those facts. This calls for a knowledge of sources and methods for securing information—an understanding of the basic factors controlling production, distribution and marketing practices from a historical as well as a current point of view—an ability to look at facts from an unbiased standpoint and derive from them correct, significant and practical conclusions with respect to where and how a carrier's own operations may be affected by them (the last mentioned point is the critical test of the ability of a research worker). Finally, to be most helpful, such findings and conclusions must be reported in a brief, logical and convincing manner to the officers whose duty it is to act upon them.

Obviously, the hope for overcoming revenue losses arising from economic forces which result in the actual elimination of a product as an item of commerce lies in the uncovering of ways and means for securing new and offsetting traffic. Disregarding the possibilities for accomplishing this through the basically non-productive means of getting additional tonnage from competing railroads, such research calls for a company's carefully studying its territory's natural resources and industrial opportunities—and on the basis of such findings deciding what, if any, type of agricultural and/or industrial program it is warranted in launching.

A somewhat different approach is required in the study of traffic losses growing out of competitive transportation conditions. Solutions to such problems frequently demand that detailed data be assembled on current production, distribution, and consumption practices, historical trends, etc. Freight rates and freight rate structures generally must be carefully analyzed. Prices and price trends often must be compared with freight rates, and the latter in turn compared with transportation costs. *Actual traffic may have to be weighed in the light of potential traffic, and considerable effort made to determine accurately what the underlying factors are which are responsible for any differences between the two.* Service requirements must be studied in the light of that provided by competitors. In addition, shippers' needs and problems must be scrutinized as must the nature and effectiveness of a company's solicitation policies.

Hardly better proof that such research work is needed and pays real dividends could be cited than the fact that large industries like the United States Gypsum Company and the General Foods Corporation (with whom transportation is merely an important side-line) employ fulltime men to carry on similar traffic research work.

The Rio Grande's activities in this field date back to 1935 when the company entered its present trusteeship. As a road which had been and was still suffering acutely

from the effect of greatly changed industrial conditions, the management was early impressed with the importance of expanding its efforts in the field of commercial as well as technical research, its problems being twofold—how to create a better transportation product, and how to sell more of that product.

Initial efforts in this connection included the making of a comprehensive survey of the Rio Grande's less-profitable branch lines. Made by regular staff officers freed for the purpose, this study undertook to determine the economic worth of each particular branch line in terms of traffic and revenue from a long as well as a short term viewpoint. In doing this, the historical trends of traffic, revenues and expenses were traced, agricultural and industrial resources were inventoried, service requirements analyzed, and the future prospects for each line evaluated. Supplemented with charts, tables, and maps, the report not only provided a sound basis for managerial decision at the time it was compiled, but continues to be a most useful reference source.

Many other similar surveys have since been made by the company on other aspects of its operations and traffic. These have included comprehensive studies of various commodities, rates, fares and divisions, transportation costs (freight and passenger), schedules and services (freight and passenger), solicitation methods and policies, natural resources, agricultural and industrial development programs, etc.

Typical of the scope and methods employed in making specific commodity analyses is a study recently completed of one of the company's major revenue producers—bituminous coal.

As an item of traffic suffering greatly as a result of inroads made by trucks and competing fuels, this commodity was studied from the standpoint of:

1. Ascertaining the exact nature and extent of the company's losses in terms of tonnage and revenue by origins and destinations—through analysis of production records, waybill checks, and other pertinent data.

2. Determining accurately the factors responsible for each of these losses—the extent to which they are attributable to truck competition, changes in industrial activity, inroads of natural gas and other fuels, changes in freight rates, changes in consumer buying habits (such as effect of increasing importance of slack vs. lump coal), etc.

3. Ascertaining the actual cost of transporting coal between various points under differing conditions—and in turn analyzing these costs in the light of freight rates, coal prices, comparable costs of competing fuels, trucking costs, etc.

4. Checking production and marketing trends and practices with the view to ascertaining the needs of the coal industry in terms of freight rates, transportation service, wholesale and retail pricing policies, taxation and regulation, advertising and sales promotional helps, etc.

Depending upon the subject and circumstances, these studies have been made either by officers specially assigned to make particular investigations or by the three officers the company employs to devote full time to such economic research work—its Industrial Engineer who carries on industrial research and development work, its Director of Agriculture who carries on similar work in the field of agriculture, and its Supervisor of Traffic Research & Statistics.

How Traffic Research Is Conducted

As implied by the name, for the most part, the work of the last-named falls into the category of what has been described as competitive transportation research. Freed of routine responsibility, the Supervisor of Traffic Research is charged with finding, interpreting, and report-

ing pertinent facts relating to the company's traffic and revenues. Such work is conducted as an executive staff function—thus enabling departmental lines to be crossed without friction and with maximum benefits.

The methods employed correspond closely with those previously outlined. By having such research work carried on in closest co-operation with all officers and departments concerned (relying upon these channels for the working up of detailed, otherwise unavailable, information), staff requirements are at a minimum—consisting only of the Supervisor himself and one assistant.

Obviously, such research—call it economic research, commercial research, traffic research, or whatever—is nothing new—nor is it a cure-all. Every railroad executive is doing some of it practically every day of his life—for research is nothing more or less than the careful study of definite problems, while economic research is such study as is directed toward the solution of business problems. Like research in the fields of Chemistry, Electricity, or Mechanics, however, the Rio Grande feels its efforts in this connection have been made more efficient and more productive, by freeing properly qualified men from routine duties to devote their full efforts uninterrupted to such work. It believes that through such work it is rendering a real service not only to itself, but to the country as well.

Many excellent studies and much necessary groundbreaking have already been done in this field by the Bureau of Railway Economics and other departments of the Association of American Railroads, by the Interstate Commerce Commission, by the Federal Co-ordinator and his staff, and by others. More may be expected to come out of the work now being undertaken by the Board of Transportation Investigation and Research and by the Office of Defense Transportation. The fact remains, however, that now, more than ever before, economic conditions are undergoing revolutionary changes which threaten the future welfare of our industry. How successfully American railroads meet these changes will be determined to no small extent by the greater interest and resourcefulness they show individually and collectively from now on in this field of economic research and advance planning.

Washers Clear Up Car Windows Smudged in Moffat Tunnel

(Continued from page 381)

emerge from the west portal, the agent closes a switch which opens a solenoid valve in the washer supply line. After the train passes the washer, the agent opens the switch, shutting off the water. Water remaining in the pipe of the washer pipe system drains out through the lower nozzles, thus avoiding the possibility of its freezing during cold weather.

Some consideration has been given to wrapping each nozzle, especially those in the west end installation, with a small electrical heating element to prevent clogging of the nozzles by freezing, if that becomes a problem during the present winter. However, the washers at both portals have already been operated in extremely cold weather without difficulty, and it is hoped that the additional expense of heating the nozzles electrically just before their use in cold weather will prove unnecessary.

The window washing systems at the tunnel were made under the general direction of A. E. Perlman, chief engineer of the Denver & Rio Grande Western, and under the immediate supervision of W. E. Bickel, engineer of water service.

New Book . . .

Burlington West, A Colonization History of the Burlington Railroad, by Richard C. Overton. 583 pages. 9 1/4 in. by 6 1/8 in. Bound in cloth. Published by the Harvard University Press, Cambridge, Mass. Price \$4.50.

One morning in 1905 the head of the Land department of the Chicago, Burlington & Quincy wound up his affairs, locked his office door and sent the final report of the department to President C. E. Perkins with a terse memorandum stating "This closes quite a chapter in the history of the West." Directly beneath, "C. E. P."—who himself had once headed the Land department—noted, "You ought to write a history of it sure—even if only a brief one."

Neither of these men was able to start such a history. But in 1936 the railroad deposited literally tons of records of the department in the Baker Library of the Harvard Graduate School of Business Administration. The record books, 32,326 individual land contracts and more than 600,000 letters which the collection comprised, together with the private letters of Mr. Perkins, government reports and newspapers, became the grist for this fascinating book, the author of which—an enthusiastic student of railroad history—devoted a year's fellowship to the job.

This is real history—right from the source. It is complete, documented, trustworthy. The author lets fall no judgments on the Burlington's land policies, and goes only so far as to suggest that examination "reveals a story that by no means conforms to the popular view of land-grant roads." The conservatism, honesty and hard work which the unvarnished record in this book evidences on every hand suggests that Mr. Overton may have under-stated his warning against the popular assumption relative to these grants.

This book covers in a general way the history of the Burlington from 1850 to 1940, but its special subject is the sale and colonization of lands in Iowa and Nebraska between 1856 and 1883. It is probably the first published work to tell the full story of sectionalism and politics in the federal land-grant fights. The country was by no means friendly to the policy of aiding corporations. And peculiarly enough it was the "Far West" itself which most opposed land-grants to railroads yet unborn. The railroads also had great difficulty in building even after popular enthusiasm for land-grant encouragement became a reality. Settlers and speculators often moved in and took lands for sale at a profit which the railroads needed to get money to build its lines. So Burlington officers "found themselves in the uncomfortable position of having to compete with persons whose friendship they wished to retain as future shippers and travelers."

The Burlington's (Burlington & Missouri) first Land department chief was Charles Lowell, the brilliant nephew of the famous poet, who met his super-human task with urbane good-humor. His first big job was to survey and map the railroad's tracts. He realized that it must be done without antagonizing future customers living on it without titles. His instructions to his examiners ended with: "Make your examinations as thorough and your reports as full as if on each 40 [acres] you were writing to your ladylove and describing the Paradise where you hoped to pass with her a blissful middleage!" Throughout his administration, Lowell emphasized that success of the road depended on fair price and credit policies in selling its lands. Any policy which restricted immigration or antagonized *bona fide* settlers for the sake of "quick money" would defeat its own ends. The railroad was out to colonize its lands with future railroad patrons; not to make maximum profits on land sales.

Most vigorous of the Land department chiefs was George S. Harris. The book's account of his exploits clearly shows that our generation has no monopoly on intensive or extensive publicity techniques. Harris was a shrewd advertising agent and placed his appropriations where they would do the most good. He had great belief in tying newspaper advertisements in with pamphlet distribution; preferred brief notices in many papers rather than lengthy advertisements in a few; and chose family and agricultural media in place of urban dailies.

In addition to the text, the book carries an extensive appendix reproducing in full the more important source material. Full-page photographs, quarter-page engravings and maps heighten the work's interest.

NEWS

Whitewash Report on the Big Ditch

Alleged "study" by Commerce Dept. presents project as "defense" job

The concluding report of the St. Lawrence Survey, which was conducted in the Department of Commerce under the direction of N. R. Danielian, arrives at the expected conclusion that the proposed seaway and power facilities should be built now as "national defense" works. The present report, Part VII of the series, is a document of 147 pages entitled "Summary Report of the St. Lawrence Survey, including the National Defense Aspects of the St. Lawrence Project."

The report was completed before the Japanese attack on Pearl Harbor; but an addendum asserts that the expansion of the shipbuilding and armament programs since that time, "instead of making the conclusions of the report outdated, on the contrary emphasize the greater need for the shipbuilding capacity of the Great Lakes and the need for developing St. Lawrence power for the successful prosecution of a prolonged war."

The summary section of the report reviews the previous volumes in the series, discussing among other things the effect on railroads. Here is a marshalling of alleged "facts" which "point to the conclusion that the St. Lawrence Seaway will not cause a net diversion from the railroads, but will take care of increasing needs for transportation facilities; hence there is no basis for the fear that the seaway will cause idleness of existing railway equipment and employees." The report, using the estimates of the Army engineers, arrives at a figure of \$191,681,515 as "the ultimate federal liability" for the seaway, "not including interest during construction, but including 25 per cent for contingencies." The annual cost is put at \$9,500,000.

Consideration of toll charges led to the finding that "both the measurable and the unmeasurable advantages of the seaway to national defense certainly justify the claim that at least a portion of the cost is a legitimate levy against the taxpayer." But "what proportion should be paid respectively by the commercial users and by the taxpayers requires intensive investigation."

The national-defense-aspects part of the report finds that St. Lawrence power is needed by both the United States and Canada "to take care of the normal growth in load," and "it is urgently needed for the requirements of defense industry." Mean-

while "the importance of utilizing the resources of the Great Lakes area for the merchant and naval ship-construction program of the United States and its allies is established by the testimony of well qualified authorities and the officials of the federal government charged with the responsibility of carrying out the national defense program."

Even the labor and materials situation seems to be O. K. As the report put it: "The conclusion is inevitable that the St. Lawrence project would not absorb large amounts of skilled labor and materials in absolute terms, and it will most likely absorb less amounts of labor and materials than would be needed for other facilities in power, transportation, and shipbuilding equivalent to what this project will make available to the national defense effort." Moreover, even if the emergency should end in the next few years, the seaway in peacetime "would provide greater opportunities for the employment of a merchant fleet, so essential to the maintenance of an adequate auxiliary fleet for emergency use."

At his February 10 press conference President Roosevelt revealed that the St. Lawrence project had been discussed earlier that day at his regular weekly meeting with Congressional leaders. He indicated that he expected the project to remain in the rivers and harbors bill. Asked about the navigation phase, the President replied that nothing could be done on that until the power dam was built, adding that that is what you call practical procedure.

Reports of Persons Furnishing Cars or Temperature Control Service

Companies furnishing to railroads or express companies cars or protective (i. e., control of temperature) services for perishable freight have been ordered by the Interstate Commerce Commission to submit quarterly reports beginning with the three months' period ending March 31, 1942. The reports are to cover the number of cars in service, and the order prescribes the report form.

Large Railroad Collection Presented to Dartmouth

The library of Dartmouth College, Hanover, N. H., has recently received the gift of a large collection of material dealing with the railroads of Maine, New Hampshire and Vermont from the period 1840 to 1860. The gift of Thomas W. Streeter, Morristown, N. J., the collection comprises over 500 pieces, including annual stockholders' reports, early surveys and maps, legislative hearings, pamphlets relating to controversies and disputes, etc.

Materials Lack Still Big Worry

Eastman cites it as No. 1 task, warehousing No. 2, hauling munitions help No. 3

The securing of materials and equipment, the creation of storage and warehouse facilities in terminal areas and the transportation of workers to and from work plants were cited as problems 1, 2 and 3 of transportation and the Office of Defense Transportation by Joseph B. Eastman, director of that office, at a luncheon of the Traffic Club of Chicago on February 5. The vital thing in transportation, he said, is to prevent anything that will cripple the war effort which is dependent upon it. The O. D. T., he continued, is not a second United States Railroad Administration. It was created not to drive the carriers but to lend them the help and the authority of the government for assuring the maximum utilization of transportation for the successful prosecution of the war. The Office will keep watch so as to be able to make proper recommendations to the President if necessary.

There are dangers ahead, he said, which should not be underestimated. The moving of troops and materials under emergency orders which causes a change in the direction of the flow of traffic is an immediate problem but the No. 1 problem, he said, is the securing of materials and equipment so that worn out materials and equipment can be replaced and new equipment and facilities can be provided. The shortage of rubber and motor vehicles has already been felt, and as the availability of the private automobile and truck declines, a great load will be thrown upon the railroads, the electric railways and the bus lines.

"However," he continued, "neither the carriers nor the shippers can expect any diversion of materials from war products to transportation for the supply of new equipment and facilities to perform transportation which can be performed by existing equipment and facilities if it is used in the best practicable way."

"The Executive Order creating the O. D. T. makes it my duty to co-ordinate and direct domestic traffic movements with the objective of preventing possible points of traffic congestion and assuring the orderly and expeditious movement of men, materials, and supplies to points of need. That is a heavy responsibility, and it entrusts me with an authority which I do not wish to exercise unless it is necessary, but

which I must be ready to exercise in that event. For that purpose I have set up a Division of Traffic Movement.

"Like all my organizations at this initial stage, that Division is charting its course and putting its plans to the test of both carrier and shipper criticism. It is too early to talk about its work except in generalities. It must be prepared in the event of excess traffic to see to it that the load will be so distributed that all carriers and their facilities may be used to the utmost advantage, giving priority of channels, if need be, and perhaps priority of movements to military or other war traffic. In other words, it must be prepared, if and when the traffic flood comes, to allocate, not the traffic, but the traffic burden among the carriers; and we cannot afford to wait until the flood comes before the necessary plans are made. The job which the Division must therefore do in these early days of its organization is to ascertain the facts with respect to prospective traffic volume, source, and flow, and the transportation facilities and services of all kinds available to move it, and to plan the channels and, if necessary, the routes over which it shall move in times of traffic emergency.

"The Executive Order makes it my duty to 'survey and ascertain present and anticipated storage and warehousing requirements at points of transfer and in terminal areas; and encourage the provision of increased storage, loading, and unloading facilities where necessary'. That I regard as the No. 2 problem of the Office of Defense Transportation, and I have placed it in charge of Leo M. Nicholson, who got his training in the last World War under General Goethals and General Wood. It has various aspects, but I shall here mention only one, which I regard as the most important. When the war products begin rolling in volume off the production lines, it is probable that there will be a large surplus which cannot at once be taken by our armed forces or moved across the seas for the use of our Allies. If left at the plants, it will clog them up, and it ought not to be loaded into cars unless they can be unloaded at destination. Storage facilities of a temporary character must, therefore, be provided at an early date, well located with respect to transportation facilities. I cannot now take time to go extensively into this matter, and my present knowledge of it is limited. I do know enough about it, however, to feel confident that the problem is of such magnitude and importance that it deserves the No. 2 rank.

"Next in order, I should say, comes the problem of providing for the transportation of workers to and from the great new defense plants. That is the one which I principally discussed yesterday before the American Transit Association, and I have placed it in charge of Guy A. Richardson, who has made his mark in the handling of the affairs of the Chicago street railways. That problem, as I have already indicated, has been created chiefly by the rubber shortage and the discontinuance of the manufacture of the private automobile. Its importance in the efficient conduct of the war work can hardly be overestimated, and the same is true of its difficulty."

New Troop Car Being Proposed

Railroads have suggested to the War Department the possibility of using for the transportation of troops a specially-designed coach which could be converted into a 50-ft. box car. It is understood that the proposal, which is still in the "talk stage," would contemplate that the government would purchase the coaches for wartime use, and at the close of the war sell them to the railroads for conversion into freight equipment.

Government Buys Chicago Building for Retirement Board

A 12 story building, the American Fore at 844 Rush street, Chicago, was purchased by the government on February 6 for the Railroad Retirement Board and its 1,600 employees. The government will take possession immediately.

Club Meeting

The Toronto Railway Club will hold its next meeting on February 23 at the Royal York hotel, Toronto, Ont., at 7:45 p. m. Harold J. Roast, vice-president, Canadian Bronze Co., Ltd., Montreal, Que., will present a paper on "Metals and the War."

President Signs Car Inspection Bill

President Roosevelt has signed H. R. 4849, which would authorize the Secretary of Agriculture to promulgate rules and regulations governing the inspection, cleaning and disinfection of railway cars and other vehicles entering the United States from Mexico.

Eastman Has Publicity Man

Bryant Putney has been detailed by the Office for Emergency Management's Division of Information to handle publicity for the Office of Defense Transportation. Prior to his association with OEM, Mr. Putney had been for several years with Editorial Research Reports, a Washington syndicate service, and before that he was on the staff of a Washington newspaper.

Classification of Water Carriers

Division 1 of the Interstate Commerce Commission has classified water carriers for reporting purposes as follows: Class A, all carriers having annual operating revenue exceeding \$500,000; Class B, all carriers having annual operating revenue exceeding \$100,000 but not more than \$500,000; Class C, all carriers having annual operating revenues of \$100,000 or less.

The Canadian Roads in 1941

The Canadian National had \$304,376,778 of operating revenue in 1941 (in 1940 it was \$247,527,224). Operating expenses were \$237,768,438 (in 1940, \$202,519,813). Net operating revenue was \$66,608,340 (\$45,007,411 in 1940). In December operating gross was \$28,011,291 (\$23,736,806 in the preceding year). Operating expenses were \$21,750,840 (in 1940 they were \$17,-

463,256). Net operating revenue was \$6,260,450 in December (\$6,273,550 in December, 1940).

The Canadian Pacific had \$221,446,053 of gross revenues in 1941 (in 1940 they were \$170,964,897). Operating expenses were \$175,488,517 (\$135,325,458 in 1940). Net operating revenues were \$45,957,536 in 1941 and \$35,639,438 in 1940. In December gross was \$21,204,214 (compared to \$16,335,666 in December, 1940). Operating expenses were \$16,113,464 (in 1940, \$11,529,460). Operating net was \$5,090,750 (\$4,806,206 in 1940).

U. P. Depreciation Rates—Correction

The depreciation rate recently prescribed by the Interstate Commerce Commission for miscellaneous equipment of the Union Pacific is 14.99 per cent. Because of a typographical error, the rate for this item was incorrectly reported in the story entitled "Equipment Depreciation Rates" which appeared in the *Railway Age* of January 31, page 311.

Passenger Cars on Order

Class I railroads and the Pullman Company had 513 new passenger cars on order on January 1, according to the Association of American Railroads. This was an increase of 233 compared with the number on order on January 1, 1941, at which time there were 280. Of the total, Class I roads had 316 new passenger cars on order on January 1, this year, compared with 231 on the same date one year ago, and the Pullman Company had 197 on order, compared with 49 on January 1, 1941.

Beyer Granted Leave of Absence from Mediation Board

The National Mediation Board has announced that Otto S. Beyer has been granted indefinite leave of absence so that he may give full-time service to his position as director of the Division of Transport Personnel, Office of Defense Transportation. When he announced Mr. Beyer's appointment on January 8, ODT Director Joseph B. Eastman said that he anticipated that N. M. B. would arrange to permit the appointee to serve ODT on a full-time basis.

Priorities for Freight Cars and Locomotives Defined

The War Production Board has issued interpretations of three preference rating orders—P-21, P-20 and P-8—in order to define more clearly the extent to which priorities assistance is available under them.

Order P-21 covers materials for the repair and rebuilding of steam, electric or Diesel-electric locomotives; P-20 applies to materials going into the construction of locomotives specified in that order; and P-8 governs materials for the construction of railroad, industrial and mine freight cars.

Each order assigns an A-3 preference rating to deliveries of the necessary materials. Each states that the rating may be used to obtain materials entering "directly or indirectly" into the equipment covered.

In order to avoid confusion, the interpretations state that the term "directly or indirectly" does not mean that a producer

or supplier can use the rating to get materials for plant expansion, improvement or maintenance. The rating can be used only for materials which will be physically incorporated in the product, or for perishable tools used up in the process of manufacture.

Philadelphia Traffic Club Elects

Colin C. Brown, general agent, Lehigh Valley, was elected president of the Traffic Club of Philadelphia, Pa., on February 10, succeeding C. R. Ritter, traffic manager, Luria Brothers & Co. Other officers elected were: First Vice-President, H. C. Hoffa, manager, traffic division, Atlantic Refining Company; Second Vice-President, Arthur A. Gallagher, general southern freight agent, Delaware & Hudson; Secretary (re-elected), F. G. Ibach, general traffic manager, E. J. Lavino & Co.; Treasurer (re-elected), W. A. Angus, traffic manager, Pennsylvania Sugar Company.

Claim Agents Arrested in Fraud Case

Two former personal injury claim agents of the Grand Trunk Western were arrested by postal inspectors at Detroit, Mich., on February 7, who revealed what they charged was a scheme to defraud the railroad of about \$75,000. The scheme, according to the officers, was based upon false injury claims filed after two trains carrying football crowds to the Notre Dame-Minnesota game collided in South Bend, Ind., on November 12, 1938. The men, one a claim agent and the other an investigator, were in a position to pass upon the claims. The case will be presented to a federal grand jury in Detroit.

U. S. Takes Another Seatrain Vessel

Seatrail Lines, Inc., of New York, has lost a third vessel to the United States Maritime Commission and was thereby forced to discontinue service between New York and New Orleans, La., Texas City, Tex., and Havana, Cuba, effective the week of February 8. Last July the government conscripted the "Seatrail New York" and "Seatrail Havana," following which the company re-shuffled its remaining three vessels to continue its runs under drastically-reduced sailings (see *Railway Age* for July 5, page 31). Seatrail will continue to operate its two remaining railroad carrying vessels between New Orleans and Havana.

1941 Locomotive Shipments

Last year's shipments of railroad locomotives totaled 970 as compared with 587 in 1940 and 356 in 1939, according to reports received by the Department of Commerce from builders other than railroad shops. The 1941 total included 182 steam locomotives, 18 electrics, 713 Diesel-electrics and 57 of other types.

December shipments totaled 96 locomotives as compared with 89 in November and 70 in December, 1940. Unfilled orders at the end of December totaled 1,213 locomotives as compared with 1,022 on November 30, and 354 as of December 31, 1940.

Data supplied by the Car Service Divi-

sion, Association of American Railroads, on locomotive building in railroad shops show that 24 locomotives (20 steam and four electrics) were thus produced in 1941 as compared with 74 (40 steam, 21 electrics, and 13 "gas or Diesel") in 1940. Railroad shops built six locomotives (four steam and two electrics) in December as compared with none in December, 1940. As of January 1, 1942, railroad shops had unfilled orders for 39 locomotives, including 21 steam and 18 electrics.

Accessorial Passenger-Charge Tariffs Suspended

The Interstate Commerce Commission has suspended from February 10 until September 10 those schedules in the passenger-fare-increase tariffs which proposed to increase the charges for transportation in passenger-train service, other than the transportation of passengers.

The suspended schedules proposed to increase, along with the authorized passenger-fare increase, such rates as excess-baggage charges which are based on passenger fares. However, no authority to increase such charges had been sought in the *Ex Parte 148* application, and thus the authority to publish the fares on short notice did not run to the accessorial charges.

N. Y. Railroads Enjoined from Fare Rise

Justice S. I. Rosenman of the New York State Supreme Court on February 9 enjoined the New York Central, Long Island and Staten Island Rapid Transit (B. & O. subsidiary) from increasing one-way and commutation fares within the limits of New York City pending authority from the New York Transit Commission. The order was in response to the Commission's request for a restraining injunction. The State Public Service Commission did not join the Transit Commission in its move (the Transit Commission has authority only in the city of New York) but on the same date it started hearings on application of the railroads within the state to increase commutation fares 10 per cent, effective March 1.

Would Give Armed Forces Low Rate

Members of the armed forces of the United States on leaves of absence or furlough would be permitted to travel in day coaches at the rate of one-third of one cent per mile, and the Interstate Commerce Commission would be directed to investigate the feasibility of postalized fares, if Congress should enact into law S. 2243, a bill introduced by Senator Chavez, Democrat of New Mexico. The reduced fare, which would also be accorded to nurses and members of the Coast Guard, would apply for the duration of the present war and for six months thereafter.

The bill would authorize the commission to investigate the feasibility and desirability of fixing, on a zone basis, fares charged by railroads for the transportation of passengers with a view to the establishment of a "simplified rate structure for such transportation within or between such zones and the establishment of rates low enough to encourage full utilization of the facilities of such railroads."

Under the terms of the bill, the commission must report to Congress as soon as practicable, but not later than January 4, 1943, the results of the investigation, together with its recommendations. In making the investigation the commission would be given the same powers as are conferred upon it for carrying on studies and investigation in the performance of other duties imposed upon it by law.

December Accident Statistics

The Interstate Commerce Commission on February 7 made public its Bureau of Statistics' preliminary summary of steam railway accidents for December, and the year 1941. The compilation, which is subject to revision, follows:

Item	12 Months Ended with			
	Month of December 1941	Month of December 1940	1941	1940
Number of train accidents*	918	736	9,403	7,106
Number of casualties in train, train-service and nontrain accidents:				
Trespassers:				
Killed	145	140	2,159	2,027
Injured	109	143	1,856	2,059
Passengers on trains:				
(a) In train accidents*				
Killed	1	47	18	66
Injured	78	1,162	863	
(b) In train-service accidents				
Killed	6	2	19	9
Injured	162	148	1,750	1,667
Travelers not on trains:				
Killed	2	3	9	7
Injured	76	73	872	814
Employees on duty:				
Killed	82	52	754	533
Injured	2,382	1,661	25,249	17,903
All other nontrespassers:**				
Killed	242	227	2,146	1,970
Injured	819	748	6,918	6,284
Total—All classes of persons:				
Killed	478	424	5,105	4,612
Injured	3,626	2,820	37,807	29,590

* Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former cause damage of more than \$150 to railway property.

** Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties for all classes of persons, including both trespassers and nontrespassers, were as follows:

Persons:	Killed	Injured
Killed	213	220
Injured	611	612

Pullman Meets Army Demands

A total of 1,957,200 United States troops were transported in Pullman sleeping cars in 1941, according to a statement issued by D. A. Crawford, president of the Pullman Company. Of this number, about 450,000 were moved during the seven weeks following the bombing of Pearl Harbor. As a result of the demand in 1941, the company was forced at times to use a third of its sleeping cars for military service.

To handle the military business in 1941, 55,920 car-trips were made. On the average a car was loaded every 9½ min. and traveled 1,500 miles.

The record of American railroads in this emergency, the statement continued, is the more notable when it is recalled that the Nazis many times during 1941 had to cancel all civilian railroad accommodations in order to handle troop movements. The Pullman part of this job, Mr. Crawford said, was a complex one. On short notice it has been necessary over and over again to reassemble hundreds of cars which had

been scattered to the four corners of the country in previous movements, and to inspect, stock and provide these cars with train personnel as they converged on a camp from which a new troop movement was to begin.

Asks Reopening of Red Cap Case

The Cincinnati Union Terminal has requested the Interstate Commerce Commission to reopen the case of Ida M. Stopher v. the Cincinnati Union Terminal Company, Inc., No. 28495, for reconsideration and re-argument before the full commission solely with respect to the question of whether or not red cap service is a transportation service subject to provisions of the Interstate Commerce Act regarding the filing of tariffs.

Division 3, in a two-to-one decision, has held that the carrying of baggage by red caps and the terminal company's fee for it are subject to regulation by the commission and that the company must file a tariff covering its charge for that service in accordance with section 6(1) of the Interstate Commerce Act.

N. Y. Railroad Club to Meet February 19

The New York Railroad Club will hold a "Pan American Airways Night" on February 19 in the Engineering Societies building, New York, at 7:45 p. m. Samuel F. Pryor, vice-president, Pan American Airways, and formerly assistant to president, American Brake Shoe & Foundry Co., will speak on "The Clipper Corps in a World at War." David E. Grant, legal counsel, and Captain Fred. S. Ralph, clipper captain, Pan American Airways, will present "Keeping Our Aerial Lifelines Open" and "Myrtle's Last Flight," respectively. Two sound and color motion pictures, entitled "Skyway to Hawaii" and "By Air to the Argentine," will be shown. The program will also include pantomime, singing and dancing acts.

Railroad Employment Down 1.34 Per Cent from December

Railroad employment decreased 1.34 per cent, dropping from 1,184,536 to 1,168,706 during the one-month period from mid-December to mid-January, but the January total was 14.79 per cent above January, 1941, according to the Interstate Commerce Commission's compilation based on preliminary reports. The index number, based on the 1935-1939 monthly average as 100 and corrected for seasonal variation, was 119.4 for January as compared with December, 1941's 119 and January, 1941's 104.

The decline in January under the previous month was accounted for by drops of 7.28 per cent in the maintenance of way and structures group and of 2.21 per cent in the group embracing transportation employees other than train, engine, and yard. January employment in all other groups was slightly above December, the largest increase being 0.92 per cent in the professional, clerical and general group.

Meanwhile, January employment in all groups was above that of January, 1941, the largest increase being the 17.02 per cent rise in the maintenance of way and structures group. Next in turn came main-

tenance of equipment and stores, up 16.58 per cent; train and engine service, up 15.56 per cent; profession, clerical, and general, up 13.46 per cent; and yardmasters, switchtenders, and hostlers, up 11.94 per cent.

Little Progress Made on T. P. & W. Strike

Developments this week in the case of the strike on the Toledo, Peoria & Western show that it has progressed little farther, if any, in Washington government labor circles than it had last week. So far as can be ascertained, the case, in which the Brotherhood of Railroad Trainmen and the Brotherhood of Locomotive Firemen & Enginemen has asked the President to take over the line, is still in the hands of John R. Steelman, director of conciliation in the conciliation service of the Department of Labor.

Inquiry at the National War Labor Board revealed that the case has not as yet been certified by Mr. Steelman to that agency, nor has it taken any action to assert its power of original jurisdiction.

It has also been learned that Joseph B. Eastman, director of the Office of Defense Transportation, has written a letter to the War Labor Board and to Mr. Steelman saying that he cannot certify the road as essential to the defense effort but suggesting that the board might take the case up on its own initiative.

I. C. C. Income and Balance Sheet Items for November

The Interstate Commerce Commission on February 6, made public its Bureau of Statistics' latest monthly compilation of selected income and balance sheet items, showing November's net income of the Class I railroads to have been \$29,225,516, and that for the year 1941's first 11 months at \$444,620,299. Later figures for December and the year 1941, as reported by the Association of American Railroads, were published in the *Railway Age* of February 7, page 347.

The commission's statement shows that the roads not in receivership or trusteeship had a November net income of \$31,707,814

SELECTED INCOME AND BALANCE-SHEET ITEMS OF CLASS I STEAM RAILWAYS

Compiled From 132 Reports (Form IBS) Representing 137 Steam Railways
(Switching and Terminal Companies Not Included)

All Class I Railways

Income Items	For the month of November		For the eleven months of	
	1941	1940	1941	1940
1. Net railway operating income	\$68,764,840	\$71,560,229	\$916,788,520	\$603,692,469
2. Other income	13,629,762	14,933,571	137,716,380	134,527,053
3. Total income	82,394,602	86,493,800	1,054,504,900	738,219,522
4. Miscellaneous deductions from income..	2,607,910	2,503,355	30,554,483	27,808,633
5. Income available for fixed charges..	79,786,692	83,990,445	1,023,950,417	710,410,889
6. Fixed charges:				
6-01. Rent for leased roads and equipment	11,079,908	13,338,779	141,290,155	131,820,539
6-02. Interest deductions ¹	38,291,661	39,006,095	425,105,137	431,631,317
6-03. Other deductions	121,135	124,421	1,308,030	1,377,231
6-04. Total fixed charges	49,492,704	52,469,295	567,703,322	564,829,087
7. Income after fixed charges	30,293,988	31,521,150	456,247,095	145,581,802
8. Contingent charges	1,068,472	1,011,049	11,626,796	11,169,426
9. Net income	29,225,516	30,510,101	444,620,299	134,412,376
10. Depreciation (Way and structures and Equipment)	18,213,628	17,150,375	198,412,132	188,350,231
11. Federal income taxes	8,210,697	5,491,485	166,756,061	55,565,097
12. Dividend appropriations:				
12-01. On common stock	51,481,719	28,865,684	134,413,933	97,661,078
12-02. On preferred stock	4,383,447	6,909,890	24,064,519	22,402,041
Ratio of income to fixed charges (Item 5 ÷ 6-04)	5 ÷ 6-04	1.61	1.60	1.80
				1.26

All Class I Railways

Selected Asset and Liability Items	Balance at end of November	
	1941	1940
13. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	\$536,173,715	\$570,504,980
14. Cash	\$892,360,703	\$678,064,941
15. Temporary cash investments	141,619,576	73,252,104
16. Special deposits	229,732,873	94,014,195
17. Loans and bills receivable	1,142,676	1,624,998
18. Traffic and car-service balances—Dr.	31,466,230	26,324,095
19. Net balance receivable from agents and conductors	77,955,776	53,133,974
20. Miscellaneous accounts receivable	177,078,761	135,200,855
21. Materials and supplies	437,032,495	329,535,970
22. Interest and dividends receivable	29,035,434	30,353,878
23. Rents receivable	1,547,600	1,509,498
24. Other current assets	10,409,836	8,493,513
25. Total current assets (items 14 to 24)	2,029,381,960	1,431,508,021
26. Funded debt maturing within 6 months ²	\$130,547,731	\$93,113,927
27. Loans and bills payable ³	\$57,702,024	\$109,329,544
28. Traffic and car-service balances—Cr.	61,559,999	46,550,266
29. Audited accounts and wages payable	315,819,130	258,188,851
30. Miscellaneous accounts payable	50,453,259	61,131,810
31. Interest matured unpaid	33,223,131	26,172,941
32. Dividends matured unpaid	4,510,247	1,506,047
33. Unmatured interest accrued	86,839,883	90,233,140
34. Unmatured dividends declared	52,607,675	44,989,618
35. Unmatured rents accrued	30,596,538	31,505,939
36. Accrued tax liability	350,266,019	225,877,177
37. Other current liabilities	44,080,936	39,135,635
38. Total current liabilities (items 27 to 37)	1,087,658,841	934,620,968
39. Analysis of accrued tax liability:		
39-01. U. S. Government taxes	226,830,657	97,966,782
39-02. Other than U. S. Government taxes	123,435,362	127,910,395

¹ Represents accruals, including the amount in default.

² Includes payments of principal of long-term debt (other than long-term debt in default) which will become due within six months after close of month of report.

³ Includes obligations which mature not more than 2 years after date of issue.

NET INCOME OF LARGE STEAM RAILWAYS

(Switching and Terminal Companies Not Included)

Name of railway	Net income after depreciation		Net income before depreciation			
	For the eleven months of	1941	1940	For the eleven months of	1941	1940
Alton	\$83,819	* \$1,737,629	\$336,726	* \$1,497,880		
Atchison, Topeka & Santa Fe ⁴	25,235,202	9,300,805	36,551,954	20,304,952		
Atlantic Coast Line	9,044,758	787,683	11,229,071	2,676,114		
Baltimore & Ohio	19,601,188	4,495,005	26,582,183	11,140,493		
Boston & Maine	5,894,064	1,681,973	7,203,192	3,009,979		
Central of Georgia ²	1,099,861	* 1,957,162	1,900,008	* 1,176,789		
Central of New Jersey ²	582,491	* 3,080,281	1,791,065	* 1,828,011		
Chesapeake & Ohio	39,092,546	30,760,487	47,121,580	38,502,909		
Chicago & Eastern Illinois	1,290,210	* 1,201,990	1,856,784	* 646,113		
Chicago & North Western ²	1,810,826	5,581,545	6,301,683	* 1,063,039		
Chicago, Burlington & Quincy	9,612,112	3,135,303	14,455,046	8,012,464		
Chicago Great Western	1,634,914	* 179,151	2,153,616	336,335		
Chicago, Milwaukee, St. Paul & Pacific ²	5,565,987	8,876,712	11,129,254	* 3,395,259		
Chicago, Rock Island & Pacific ²	4,368,225	* 5,687,886	8,368,400	* 1,865,592		
Chicago, St. Paul, Minneapolis & Omaha	* 748,744	* 1,968,096	* 257,156	* 1,452,428		
Delaware & Hudson	4,165,507	1,587,505	5,214,393	2,586,331		
Delaware, Lackawanna & Western	3,218,534	* 216,015	5,484,838	2,041,956		
Denver & Rio Grande Western ²	2,571,705	* 3,136,024	* 1,343,242	* 1,992,767		
Elgin, Joliet & Eastern	4,707,037	3,030,571	5,698,876	3,989,519		
Erie (including Chicago & Erie) ³	7,637,978	112,771	11,061,224	3,458,119		
Grand Trunk Western	1,724,842	* 333,247	2,804,263	748,410		
Great Northern	14,502,065	8,659,775	18,529,075	12,088,305		
Gulf, Mobile & Ohio	2,065,347	* 513,525	2,844,924	160,169		
Illinois Central	6,323,664	* 503,238	12,424,175	5,333,012		
Lehigh Valley	3,178,680	* 455,830	4,991,267	1,444,886		
Long Island	* 1,240,723	* 1,050,849	201,195	26,055		
Louisville & Nashville	16,460,794	7,823,582	20,572,353	11,815,494		
Minneapolis, St. Paul & Sault Ste. Marie ²	* 3,123,159	* 9,909,133	* 1,946,006	* 2,784,796		
Missouri-Kansas-Texas	878,656	* 2,768,216	163,565	* 1,689,968		
Missouri Pacific ²	3,070,429	* 10,242,432	7,216,914	* 6,124,652		
New York Central ⁵	24,335,174	7,264,849	41,043,941	21,908,073		
New York, Chicago & St. Louis	10,613,194	2,598,841	12,168,378	4,059,950		
New York, New Haven & Hartford ²	4,668,370	* 2,686,977	7,741,207	358,398		
Norfolk & Western	25,763,925	29,555,771	31,840,672	35,286,724		
Northern Pacific	5,927,970	* 449,650	9,612,849	2,665,252		
Pennsylvania	45,500,921	35,487,246	71,884,692	60,589,500		
Pere Marquette	3,099,537	1,012,040	5,278,416	3,083,791		
Pittsburgh & Lake Erie	5,199,868	4,413,369	7,324,973	6,450,434		
Reading	8,639,682	5,395,426	11,580,498	8,187,297		
St. Louis-San Francisco ²	131,298	* 7,054,326	2,889,314	* 4,262,679		
St. Louis, San Francisco & Texas	135,173	* 254,565	135,173	* 254,426		
St. Louis, Southwestern ²	3,321,925	* 335,557	3,935,885	249,943		
Seaboard Air Line ²	594,503	* 5,256,337	2,849,602	* 3,097,276		
Southern	16,227,826	4,721,547	20,195,204	7,956,783		
Southern Pacific ²	34,024,966	6,344,384	41,515,462	13,599,992		
Texas & Pacific	3,009,790	1,364,091	4,175,697	2,489,101		
Union Pacific (including leased lines)	21,871,132	15,097,539	29,477,863	22,163,365		
Wabash ¹	2,797,482	* 2,671,894	4,788,286	* 688,454		
Yazoo & Mississippi Valley	2,422,726	2,936,185	470,759		

¹ Deficit.² Report of receiver or receivers.³ Report of trustee or trustees.⁴ Under trusteeship, Erie only.⁵ Includes Atchison, Topeka & Santa Fe, Gulf, Colorado & Santa Fe, and Panhandle & Santa Fe.⁶ Includes Boston & Albany, lessor to New York Central.

Includes Southern Pacific Company, Texas & New Orleans, and leased lines. The report contains the following information: "Figures reported above for Southern Pacific Transportation System exclude offsetting debits and credits for interest on funded securities and rentals for leased properties between companies included therein. Operations for 1941 of separately operated Solely Controlled Affiliated Companies (excluding results for Southern Pacific Railroad Company of Mexico), not included in above statement, resulted in a net loss of \$286,035 for the month and \$2,321,346 for the period. These results include \$194,239 for the month and \$2,304,234 for the period, representing interest on bonds of such companies owned by Southern Pacific Company not taken into income by SP Co., and, therefore, not included in the 1941 income results for the system reported above. The combined results for 1941 for Southern Pacific Transportation System and separately operated Solely Controlled Affiliated Companies (excluding SP RR Co. of Mexico) amounted to a net income of \$230,230 for the month and \$34,007,854 for the period. Figures herein given exclude results of Southern Pacific Railroad Company of Mexico for the reason that policy was adopted January 1, 1940 of making no further advances to that company, it being required to conduct its operations entirely within its own resources."

as compared with \$33,745,846 in the same month last year; while their net income for last year's first 11 months was \$418,178,163 as compared with \$206,112,112 for the same period in 1940.

Eighty-six roads reported net incomes for November, while 43 reported net deficits; in November, 1940, there were exactly the same number of net incomes and deficits. For last year's first 11 months 101 roads reported net incomes, and 28 reported net deficits, as compared, respectively, with 72 net incomes and 57 net deficits in the same period in 1940. The consolidated statement for all Class I roads and that showing incomes or de-

ficits of "large steam railways" are given in the accompanying tables.

Representation of Employees

Results of several recent elections in representation-of-employees cases have been announced by the National Mediation Board.

On the Pennsylvania-Reading Seashore Lines the Brotherhood of Railroad Shop Crafts of America won the right to represent electrical workers; but machinists voted for no change in their present representation by the International Association of Machinists, operating through the Railway Employees Department, American

Federation of Labor. Signal department employees of the Colorado & Southern have chosen the Brotherhood of Railroad Signalmen of America, while the Brotherhood of Railway Clerks has been designated as the representative of the clerical, office, station and storehouse employees of the Fonda, Johnston & Gloversville.

On the Texas & New Orleans, the Sheet Metal Workers International Association, operating through the Railway Employees Department, A. F. of L., extended its coverage of sheet metal workers to include those employed in the maintenance of way department. Train porters employed by the Kansas City Southern have chosen the Brotherhood of Sleeping Car Porters.

January Export Traffic

Cars of export freight, other than grain or coal, unloaded at Atlantic, Gulf and Pacific ports in January this year totaled 63,073 cars, compared with 61,783 in December and 45,943 in January, 1941 according to the Association of American Railroads.

Cars of grain for export unloaded in January this year at these ports totaled 3,663 cars compared with 2,191 cars in the same month last year.

"Notwithstanding the fact that many boats have been taken from regular commercial steamship lines during the last two months, there has been no congestion at the ports nor has there been any delay to traffic, due to the continued cooperation of all concerned, particularly the steamship lines, exporters and shippers," the A. A. R. statement said.

Negro Charges Passenger Discrimination

C. S. Stamps, a negro residing in Kansas City, Mo., charged in a petition filed with the Interstate Commerce Commission on February 6, that three mid-western railroads had discriminated against his race by forcing him to ride from Dallas, Tex., to Houston in a car with inferior accommodations after he had paid a first class fare. The case is similar to that of negro Congressman Arthur W. Mitchell which resulted in the United States Supreme Court ruling that negroes must be accorded similar Pullman accommodations to those given white passengers. A summary of the Mitchell case and the final action taken by the commission was given in the *Railway Age* of November 22, 1941, page 888.

The roads specifically charged with having violated the Interstate Commerce Act are the Atchison, Topeka & Santa Fe and its subsidiary, the Gulf, Colorado & Santa Fe, the Chicago, Rock Island & Pacific; and the Chicago, Burlington & Quincy. The complaint alleges that while traveling from Kansas City, Mo., to Houston, Tex., on a first class ticket the complainant was forced by the conductor of the train to move into an inferior car between Dallas, Tex., and Houston because of the fact that he belonged to the negro race.

The complaint goes on to declare that the car in which the complainant was forced to ride was "hot and without windows or ventilation and having express, freight, livestock, hot kitchens, and dirty facilities." As a result of the experience Mr. Stamps contends that the white passengers were shown "undue and unreasonable prefer-

ence," and he asks the commission to institute an investigation and make appropriate findings.

Last Fall when it revised its previous findings in the Mitchell case in the light of the Supreme Court decision the commission merely reversed itself in the case of the Rock Island in Arkansas on the particular run from Memphis, Tenn., to Hot Springs, Ark. The instant case, which makes substantially the same allegations as did the Mitchell case, has given rise to speculation as to whether the commission may now be inclined to issue a general order requiring all roads operating in "Jim Crow" states to furnish similar first class accommodations for negroes and whites alike.

Industry Committee on Solid Fuels is Named

Solid Fuels Coordinator Harold L. Ickes has announced the appointment of members of an industry committee on solid fuels. The function of the committee, according to Mr. Ickes, will be to advise on the coordination of the Nation's fuel supply to meet war-time needs.

Representing railroad transportation will be J. J. Pelley, president of the Association of American Railroads, and W. C. Kendall, chairman of the Car Service Division of the A. A. R. Transportation other than railroad will be represented by Lachlan Macleay, president of the Mississippi Valley Association.

The announcement also notes that additional members to represent the "public interests" are to be announced later.

Milwaukee Operates Brake School on Wheels

A caboose in which 13 types of hand and air brakes have been installed is being operated over the Chicago, Milwaukee, St. Paul & Pacific as a classroom for the purpose of instructing freight conductors,

brakemen, switchmen and car inspectors in the safe and proper operation of brakes. The idea for the school was conceived by L. J. Benson, assistant to the chief operating officer, as a means of reducing accidents resulting from improper hand-brake operation and to perfect instruction in the operation of the many types of brakes in service on the railroads, which instruction heretofore had been given to new men by older employees. It is estimated that proper instruction in the operation of brakes will reduce substantially the number of deaths and injuries to employees and thereby save man-hours of work during the war.

Instruction is being given in setting and releasing several types of hand brakes and in the operating principle of K and A B air brakes. Another feature of the car is a section devoted to the display of six types of fire extinguishers which are used on rolling stock and in offices and shops.

The car was placed in operation on February 11 at Milwaukee, Wis., where it was fitted in the company's shops. It is operating over the system, stopping from one to several days at various points to instruct switchmen and trainmen.

Eastman Appeals to Bus Operators

Joseph B. Eastman, director of the Office of Defense Transportation, has called upon all bus operators and their employees to help the war effort by operating buses at maximum efficiency. In a letter addressed to all public-carrier bus operators, approximately 4,000 in number, using upwards of 60,000 vehicles, Mr. Eastman said:

"Today, with our country at war, the safe and efficient transportation of passengers by buses becomes an essential part of the national victory effort. Nothing must be permitted to reduce the efficiency of this transportation—especially, nothing in the way of inadequate or careless maintenance and repair.

"Every employee of every operating com-

pany, from top to bottom, now more than ever, should be alive to the necessity of preventing costly breakdowns and interruptions of service. These can be prevented by care and diligence. They must be prevented if bus transportation is to make its full contribution to the nation in this time of need."

Mr. Eastman sent with his letter a pamphlet of practical suggestions entitled "The Motor Bus and the National Defense Program."

Freight Car Loading

Loading of revenue freight for the week ended February 7 totaled 784,060 cars, the Association of American Railroads announced on February 12. This was a decrease of 31,507 cars, or 3.9 per cent, below the preceding week, but an increase of 73,864 cars, or 10.4 per cent above the corresponding week in 1941 and an increase of 156,631 cars, or 25 per cent, above the same week in 1940.

As reported in last week's issue, loadings of revenue freight for the week ended January 31 totaled 815,567 cars, and the summary for that week, compiled by the Car Service Division, A. A. R. follows:

Revenue Freight Car Loading

For Week Ended Saturday, January 31			
District	1942	1941	1940
Eastern	172,850	162,024	149,368
Allegheny	180,825	157,978	138,863
Pocahontas	49,915	48,704	47,434
Southern	128,046	112,014	100,729
Northwestern	96,867	81,019	75,821
Central Western	121,701	101,742	96,801
Southwestern	65,363	50,873	48,814
Total Western Districts	283,931	233,634	221,436
Total All Roads Commodities	815,567	714,354	657,830
Grain and grain products	47,629	30,507	32,080
Live stock	11,517	10,411	10,914
Coal	155,650	152,157	159,794
Coke	14,529	13,819	12,156
Forest products	48,764	39,534	31,374
Ore	13,342	12,448	10,087
Merchandise l.c.l.	151,786	151,284	146,788
Miscellaneous	372,350	304,194	254,637
January 31	815,567	714,354	657,830
January 24	817,804	710,752	650,187
January 17	811,196	703,497	646,382
January 10	737,172	711,635	668,241
January 3	676,534	614,171	592,925
Cumulative Total, 5 Weeks	3,858,273	3,454,409	3,215,565

In Canada.—Carloadings for the week ended January 31 totaled 62,331 compared to 64,992 in the previous week and 53,600 in the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

Total Cars	Total Cars Rec'd from Loaded	Total Cars Rec'd from Connections
Total for Canada:		
January 31, 1942	62,331	34,637
January 24, 1942	64,992	34,090
January 17, 1942	63,361	30,990
February 1, 1941	53,600	28,181
Cumulative Totals for Canada:		
January 31, 1942	296,566	150,922
February 1, 1941	251,848	133,508
February 3, 1940	235,533	119,181

N. Y. Port Authority May Build \$2,000,000 Truck Terminal

A union truck terminal in New York City to be built and maintained by the Port of New York Authority may be established under the Authority's statutory mandate to unify freight-handling facilities in the port district. Public hearings will open on February 24 on a proposal to proceed with immediate construction of a \$2,000,-



Instruction in Proper Brake Operation Is Given in a Caboose Car Which Has Been Fitted with Several Types of Brakes

000 union terminal available for joint use by long-distance motor carriers.

A statement from the authority points out that it constructed Inland Terminal Number One as a station for merchandise shipments of railroad freight and that "the steady and consistent growth of motor truck freight operations over the highway during the last 15 years has reached the point where the quantity handled to and from Manhattan by truck now exceeds the quantity handled by rail."

A. C. L. New Freight Cars Carry Revenue Freight During Delivery

New freight cars ordered by the Atlantic Coast Line will be placed into service as soon as they are completed and before they are delivered to the railroad. There are no freight car builders located on this company's rails and, ordinarily, when new freight car equipment is ordered, the new cars must be hauled empty over other lines. In view of the present emergency, the railroad has agreed for its cars to be loaded into service immediately upon leaving the builders' plants, thus immediately contributing the cars to the national freight car service pool, even though the result is that in many instances the new cars are considerably delayed in actually reaching their owner's rails. The plan was disclosed by C. McD. Davis, executive vice-president, in announcing the purchase of 2,000 freight cars, details of which were published in the *Railway Age* of January 31.

Santa Fe Gets Bus Routes

The Interstate Commerce Commission, Division 5, has granted the Santa Fe Trails of Illinois, affiliate of the Atchison, Topeka & Santa Fe, a "grandfather-clause" certificate covering common-carrier bus operations over specified routes between Chicago, on the one hand, and St. Joseph, Mo., Kansas City and St. Louis, on the other. The same decision, with findings of public convenience and necessity, also grants the applicant certificates covering common-carrier bus services over routes between Keokuk, Iowa, and Hannibal, Mo.; Morris, Ill., and Peoria; Dupue, Ill., and Princeton; Litchfield, Ill., and Hillsboro; Hillsboro and Greenville; and Matteson, Ill., and Gibson City.

In acting favorably upon the latter applications, the commission rejected the recommended findings of the joint board which sat in the proceeding, and the contentions of protestants which included "numerous rail carriers." Those recommended findings and contentions held that the Santa Fe proposals should be viewed in the light of the principles announced by the commission in the Barker case, i. e., that extensions of railroad motor operations should be disapproved if they permitted a railroad, through a controlled motor carrier, to operate into territory served by other carriers.

The commission pointed out, however, that the Barker case involved a railroad application for authority to acquire control of a carrier, and thus required a showing that the acquisition would enable the railroad to use service by motor vehicle to public advantage in its operations and would not unduly restrain competition. In extension applications, such as the Santa

Fe's, "the controlling issue is whether the proposed service will serve the public convenience or fill a public need." And even in acquisition-of-control cases, the commission went on, "circumstances may justify granting to a railroad-controlled motor carrier authority to acquire operations beyond the territory served by the railroad."

Concluding, the commission said that "we would not be justified in holding that although applicant may continue its 'grandfather' operations, it must be forever frozen to its present routes, without change or extension for the improvement thereof. . . . While the act affords means of protecting operators rendering an adequate and efficient service, it also affords means of allowing normal growth, development, and adjustment within a service area."

C. & N. W. Equity Loses in Court of Appeals

The approval and confirmation of the Interstate Commerce Commission's reorganization plan for the Chicago & North Western by the Federal District Court was upheld in its entirety by the United States Circuit Court of Appeals to which the railroad and mortgage holders had appealed. The appeal questioned the I. C. C. finding that common and preferred stocks of the old company were without value and challenged evidence in support of the finding that estimated future normal income of the road will not exceed \$14,625,000 and will not support a capitalization of more than \$450,000,000. The appeal also charged that the I. C. C. had failed to make the necessary specific findings of fact.

The appeals court found that the "vulnerability" of the commission's figures is limited to its finding that probable income for a future normal year is \$14,625,000, and added that "at best (this figure) must have the uncertainty common to all prophecy." With outstanding securities limited to \$450,000,000, interest reduced and, in part, made dependent upon income, the decision stated, even revenue of \$14,625,000 would leave little for preferred stock, let alone common shares. The court admitted that "there is the urge" to raise the I. C. C. income estimate for the benefit of stockholders, but said it also is necessary to maintain interest payments. "Good faith and honesty demand a plan to measure up to expectations," the decision declared. "Failure to do so and a return of the debtor to court for another major operation by the I. C. C. may well witness the demise of the patient."

The maximum capitalization for the reorganized road was approved and declared to be supported by evidence convincing the court that the North Western could not carry a heavier debt burden. The I. C. C.'s use of earnings as a base in fixing values before original and reproduction costs was also approved. The decision, which was written by Judge Evan A. Evans, made specific reference to the decision in the Milwaukee road case and noted that in this instance the I. C. C. failed to make a finding of values detailed sufficiently for the court to give a ruling. It was noted that the appellants in the North Western case, "relying upon this (the Milwaukee) decision," sought a reversal of the lower court's orders and remanding of the case

for more detailed findings by the Commission. The appeals court found that the North Western case differs from the Milwaukee case in that the North Western plan was approved by creditors of the road and, therefore, the court was not obliged to review merely the question of sufficient findings, but was reviewing a plan already approved by various groups of creditors. The court asserted that, since the creditors had approved the plan, "the problem of the court is solved."

The decision declared that the plan should be approved since all those who favored the plan in the lower court in effect waived more specific findings. Those who did not vote or express their views left it to the court to represent them, it was added, and interested parties have failed to produce a better plan. The decision concluded by finding that there is no unfair allocation of new securities, as charged by the appellants, and no impairment of the property rights of any bondholder. The court challenged the right of the mortgage trustees to attack the reorganization plan in the face of approval by a majority of the bondholders. A railroad is a public servant, the decision stated, and a road "floundering about in overwhelming debts cannot give satisfactory service to the public."

Tank Car Movements Set New Record

Tank car movement of petroleum into the Atlantic seaboard territory from the west reached a peak of 5,125 cars during the week ended January 31, it was reported this week by Petroleum Co-ordinator Harold L. Ickes. This all-time record-breaking movement represents an increase of 181 per cent over the 1,827 cars forwarded in the week ended January 10.

Loadings have mounted steadily since January 10, the co-ordinator said, totaling 2,410 cars for the week ended January 17, and 3,410 cars for the week of January 24. The average daily movement for the week ended January 31 was 732, compared with a daily average of 487 cars for the preceding week. In terms of oil and its products, assuming an average load of 225 barrels per car, daily deliveries last week amounted to 164,700 barrels, an amount equal to about 10 per cent of daily demand, and 55,225 barrels more per day than were delivered by rail during the week of January 24. The highest previous week of record was that of October 18, 1941, when 4,396 cars moved an average of 141,300 barrels of crude oil and products daily into the Atlantic seaboard area.

Meanwhile, Mr. Ickes acted to stimulate rail movement of petroleum products into the Pacific Northwest by authorizing the formulation of plans which will result in all elements of the oil industry on the Pacific Coast sharing alike the added costs of tank car transportation.

The authorization was contained in a formal recommendation addressed to the industry transportation committee for District 5 (Pacific Coast). Its issuance followed the coordinator's earlier request to oil companies operating in the Pacific Northwest to intensify their use of tank cars as a means of offsetting war-time interruptions in the normal method of supplying that area by tank ship from California.

At the same time the oil companies have been requested by the coordinator to build up stocks of industrial fuel oil on the east coast. Deputy Coordinator Ralph K. Davies has sent telegrams to the heads of 15 companies, calling attention to the declining stock position and urging the greater use of tank ships, tank cars and other facilities in hauling industrial fuel oils used by war and other heavy industries to the Atlantic seaboard. He urged that facilities now being used to transport other petroleum products be converted to hauling the heavy industrial oils essential to the war effort.

Navy Awards Budd Pennant for Production

The Navy "E" pennant, since 1906 the traditional award of merit in the United States Navy, was awarded to the Edward G. Budd Manufacturing Company on February 4 in the presence of Naval, company and civic officials and a large number of employees of the plant. The program of presentation was broadcast over Station WCAU from the Vim plant of the Budd company. Chief feature of the program was the presentation of a pin bearing the Bureau of Ordnance insignia and the Navy "E" to Gerard Livezey, a supervisory foreman, representative of the 10,000 Budd employees, some 4,000 of whom attended the celebration.

Award of the "E" is based upon the status of the company's production as compared to contract schedules, the amount of ingenuity shown in overcoming obstacles, the degree of corporate self-reliance, and willingness by the manufacturing company to tackle difficult tasks and give to the Navy genuine co-operation.

The Budd Company today is busy with defense work. Material for every branch of the service is rolling from the company's production lines, and some 75 per cent of the company's output is now for defense. An early conversion to 100 per cent defense work is anticipated. Among the products Budd is producing for the Navy are metal components and other devices for the Bureau of Ordnance; stacks, uptakes, doors, hatches, masts and other parts for naval vessels; and stainless steel assemblies and parts for naval aircraft.

Cite Two More for Contempt in T. P. & W. Strike

Two more striking employees of the Toledo, Peoria & Western were ordered, on February 9, to show cause why they should not be punished for contempt of court for alleged violation of a temporary injunction issued in federal court on January 19 forbidding violence in the strike which has been in effect on this railroad since December 28. One of the defendants is charged with attacking a special agent of the railroad and hitting him with a blackjack on January 24. The other is charged with attempting to pull a brakeman off a locomotive and causing him to fail to pick up an order from a switch-tender. The latter is also charged with being on the picket line which was the scene of a shotgun shooting on February 4 in which two freight brakemen were wounded.

Hearings on the contempt petitions were set for February 25.

At the same time the court will also hold hearings, originally scheduled for February 10, on contempt charges against two strikers and a representative of the Brotherhood of Railroad Trainmen who are accused of plotting the destruction of the railroad's bridge near Eureka on January 27.

Joseph B. Eastman, director of the Office of Defense Transportation, announced in Chicago on February 5 that the Department of Labor had certified the T. P. & W. strike to the War Labor Board for adjustment. The action follows unsuccessful efforts made by a three-man conciliation panel several weeks ago to adjust the dispute.

B. & M. Wins Advertising Award

The Boston & Maine received national recognition of its 1941 advertising campaign in newspapers when it was presented with a certificate for excellence in advertising at the Annual Advertising Awards dinner held at the Waldorf Astoria hotel, New York, on February 5. It was the first time, according to F. C. Kendall, executive secretary of the Administrative board, that the Annual Advertising Awards has ever awarded an individual railroad a citation for its efforts in newspaper advertising. Only previous awards to go to railroads in the annual nation-wide competition in the history of the Annual Advertising Awards was in 1935 to the Chicago, Milwaukee, St. Paul & Pacific for a national magazine campaign and a medal award in 1938 to the Association of American Railroads for "advertising as a social force."

Present to accept the award "for a campaign in local media" on behalf of the B. & M. was Herbert L. Baldwin, publicity manager of the road and secretary of

its Advertising committee. In making the presentation the award jury judged advertisements taken from 2,000 newspapers throughout the country. The particular advertisement to which the jury gave weight was the B. & M.'s "That's a H-1 of a Way to Run a Railroad" advertisement which ran in daily and weekly newspapers in its territory last year. (See *Railway Age* of May 3, 1941, page 772.)

Latest of the B. & M.'s advertisements placed in local newspapers is one dated February 9—the day preceding effective date of the 10 per cent increase in passenger fares—headed "So Now You Jack up the Fares!" ("You're Just a Bunch of Bandits After All"). This advertising copy explains reasons for the fare increase, including an explanation of the wage increase decreed by public authorities which "had to be paid—or else."

U. S. Chamber Committee Favors Repeal of Land-Grant Rates

Complete elimination of land-grant railroad rates to the government is called for in a report to the Board of Directors of the Chamber of Commerce of the United States, submitted by the Chamber's committee on transportation and communication. H. R. 6156, the repealer introduced in December by Chairman Lea of the House committee on interstate and foreign commerce is called a bill "consistent with the Chamber's position;" and one which "is understood to have substantial support by government officials as well as by shippers' organizations."

The report pointed out that although land-grant rates were in part eliminated by the Transportation Act of 1940, they remain applicable on military and naval property or personnel; and "this proviso is subjecting the railroads to heavy expense." As noted in the *Railway Age* of November 1,



The Boston & Maine is the First Individual Railroad to Receive a Citation in the Annual Advertising Awards for Its Efforts in Newspaper Advertising. Left to Right Are Shown H. L. Baldwin, Publicity Manager of the Road, Accepting the Certificate of Merit from F. C. Kendall, Executive Secretary of the National Advertising Awards, while R. P. Holland, Vice-President of Harold Cabot & Co., the B. & M.'s Advertising Counsel, Looks On.

Continued on next left-hand page

“Today the freight
train has attained
the dignity accorded
to priceless service...”



“... It (the freight train) has its schedule and its rights, as is proper for huge responsibility. In a year it hauls, in effect, one billion tons of freight an average distance of 370 miles. If that's incomprehensible, put it this way: every year it hauls one ton of freight 2,565 miles for every living soul within our borders.”

(From an article by L. H. Robbins appearing in the February 1, 1942 issue of the NEW YORK TIMES MAGAZINE)

The largest single factor in the attaining of these rights is the locomotive. Through the advances in steam locomotive design that have been made in the past few years it has been possible to increase trainloads and reduce running time. The latest development in the super-power locomotive is the “Allegheny Type” 2-6-6-6 articulated mallet. Lima has recently delivered ten of these to the Chesapeake & Ohio, and is now building ten more that will be exact duplicates.

LIMA LOCOMOTIVE WORKS



INCORPORATED, LIMA, OHIO

1941, page 709, the difficulties which have arisen as to the applicability of land-grant rates to traffic moving in connection with the defense program have crystallized among railroads and shippers a sentiment favoring complete repeal.

Meanwhile partial repealers are also pending, including H. R. 5598, also introduced by Mr. Lea and favored by the Interstate Commerce Commission in its latest annual report. It would provide that military or naval supplies shall embrace only munitions of war and property necessary for the maintenance and subsistence of the armed forces of the United States; also, that land-grant deductions shall not be applied to reduced rates published at the request of a government agency for purposes connected with the national defense program.

Retirement Board Rulings

Military service during the Philippine Insurrection has been ruled by the Railroad Retirement Board to be creditable under the Railroad Retirement Act, as a result of the general counsel's finding that the period of insurrection was a war period. Conflicts with the Moro tribes, however, did not constitute a war period, according to the general counsel, and military service in such conflicts, therefore, would not be creditable under the act.

In another opinion the general counsel ruled that the period of the Mexican border disturbances did not constitute a war period, but that the service of individuals who, during this period, were required to enter and continue in the armed forces of the United States, was creditable.

Crediting of military service may never operate to reduce an annuity below the amount which would be payable without such credits, according to a recent board order. Under the military service amendment to the Railroad Retirement Act, the annuity of an individual who is receiving benefits under another act of Congress for the same military service as that credited toward his annuity is to be reduced either by the proportion which the increase in the years of service resulting from military service bears to the total years of service, or by the entire amount of the other benefits, whichever is smaller. This provision would operate, in certain cases, to reduce an annuity below the amount payable without credit for military service, it was pointed out.

The general counsel explained that the reduction provision is specifically designated by the statute as a "limitation." He therefore concluded that it is merely a limitation which can at most cut down the increase in an annuity resulting from military service, serving only to set a boundary on the crediting of such service.

A salary paid to a weighmaster at an industrial plant by the Western Weighing and Inspection Bureau has been ruled by the general counsel to be compensation under the Railroad Retirement and Railroad Unemployment Insurance Acts. The weighmaster in the case was considered to be an employee of the bureau, which is a covered employer under the acts.

The service of individuals trimming coal for the Chesapeake & Ohio at its Newport

News, Va., coal piers and for the Virginian at its Sewall Point coal piers, under agreement with the International Longshoremen's Association, has been ruled by the board to be creditable under the Railroad Retirement Act. The board goes on to explain that in the operation of their piers, the railroads transfer coal from railway cars to sea-going vessels. In making the transfer it is often necessary to distribute or trim the coal as it is loaded into the holds of the vessels, in order to keep the ship on an even keel and make sure that the holds are properly filled. This is done by the railroads as an integral part of their transportation services, under tariffs filed by them with the Interstate Commerce Commission. The charges are collected by the railroads directly from the shippers.

The board's general counsel has also ruled that a payment of \$400 to a fireman injured on duty is pay for time lost and, therefore, compensation within the meaning of the Railroad Unemployment Insurance Act.

Bureau of Statistics Monthly Comment

Reviewing railway traffic figures for last year, the latest issue of the Monthly Comment on Transportation Statistics issued by the Bureau of Statistics, Interstate Commerce Commission, notes that "net ton-miles of service performed during the first 11 months of 1941 reached the highest level of any previous 11 months' period, exceeding the corresponding 1929 record by 4.7 per cent, and the 1940 figures by 27.2 per cent."

The 23.3 per cent rise in 1941 passenger revenues over 1940 is identified as "the largest increase over a preceding year in over 20 years"; and the indexes of railway revenue show that passenger revenues "have risen more rapidly than freight revenues during the past year when compared with the 1935-39 average." The statement includes the usual comparisons of trends of railway traffic and revenue with those of motor carriers and air lines. In the latter connection attention is called to the fact that the percentage relationship between air carrier and parlor and sleeping car revenue passenger-miles increased from 5.01 in 1937 to 15.37 in 1941.

Discussing railway expenses, taxes, and net earnings, the Bureau notes how "the financial results of operation for the calendar year 1941 reflect rapidly increasing revenues during the year, the higher operating costs in the last four months, and income tax rates much higher than for 1940." It adds that "these facts must be kept in mind in judging the significance of the 1941 net earnings." The 1941 operating ratio is given as 68.5 with the comment that "not since 1916 has the operating ratio fallen below 70."

The review of railway accident data showed that during the first 10 months of last year there were 6.38 train accidents per million locomotive miles as compared with 5.5 in the corresponding 1940 period. Of the 7,570 train accidents in the first 10 months of last year, 3,318 were reported as due to negligence of employees, 2,061 to defects in or failure of equipment, and 902 to defects in or improper maintenance of

way and structures, representing increases of 60, 9.2 and 53.9 per cent, respectively, over the corresponding 1940 totals. Meanwhile, the number of persons killed in both train and train-service accidents declined from 3.41 per million locomotive miles in the first 10 months of 1940 to 3.23 in 1941, but those injured rose slightly, 13.07 to 13.84 per million locomotive miles. The number of employees killed during the first 10 months of 1941 was 0.246 per million man-hours compared with 0.204 for the corresponding 1940 period, an increase in the rate of 20.6 per cent.

N. R. A. Exhibitors

Sixty manufacturers of railway materials and equipment have made application for space in the thirty-first annual exhibit of the National Railway Appliances Association, which will be held at the Palmer House, Chicago, on March 16 to 19 inclusive, coincident with the annual meeting of the American Railway Engineering Association. These companies are as follows:

The American Fork & Hoe Co., Cleveland, Ohio.
Barco Manufacturing Co., Chicago.
The Buda Co., Harvey, Ill.
Chipman Chemical Co., Bound Brook, N. J.
Cramer, Adams & Co., Chicago.
Cullen-Friestedt Co., Chicago.
Dearborn Chemical Co., Chicago.
A. P. deSanno & Son, Inc., Phoenixville, Pa.
Paul Dickinson, Inc., Chicago.
The Duff-Norton Manufacturing Co., Pittsburgh, Pa.
Eaton Manufacturing Co. (Spring Washer Division), Massillon, Ohio.
Elastic Rail Spike Corp., New York.
Electric Tamper & Equipment Co., Ludington, Mich.
Fairbanks, Morse & Co., Chicago.
Fairmont Railway Motors, Inc., Fairmont, Minn.
George M. Hogan & Co., Chicago.
Hubbard & Co., Chicago.
Industrial Brownhoist Corp., Bay City, Mich.
Johns-Manville Sales Corp., New York.
O. F. Jordan Co., East Chicago, Ind.
The Joyce-Cridland Co., Dayton, Ohio.
Kalamazoo Railway Supply Co., Kalamazoo, Mich.
The Lehon Co., Chicago.
The Lundie Engineering Corp., New York.
Magnaflux Corp., Chicago.
Maintenance Equipment Co., Chicago.
Mall Tool Co., Chicago.
The Master Builders Co., Cleveland, Ohio.
Metal & Thermit Corp., New York.
Morden Frog and Crossing Works, Chicago.
Morrison Railway Supply Corp., Buffalo, N. Y.
The Moto-Mower Co., Chicago.
The Murdock Manufacturing & Supply Co., Cincinnati, Ohio.
National Aluminate Co., Chicago.
The National Lock Washer Co., Newark, N. J.
The Nichols Engineering Co., Chicago.
Nordberg Manufacturing Co., Milwaukee, Wis.
Northwestern Motor Co., Eau Claire, Wis.
The Oxweld Railroad Service Co., Chicago.
The P. and M. Co., Chicago.
Pettibone Mulliken Co., Chicago.
Philadelphia Steel & Wire Corp., Philadelphia, Pa.
The Pocket List of Railroad Officials, New York.
Power Balaster Co., Chicago.
The Rail Joint Co., New York.
Railroad Accessories Corp., New York.
The Rails Co., New Haven, Conn.
Railway Maintenance Corp., Pittsburgh, Pa.
Railway Purchases and Stores, Chicago.
Railway Track-Work Co., Philadelphia, Pa.
Ramapo Ajax Div. of American Brake Shoe & Foundry Co., New York.
Republic Steel Corp., Cleveland, Ohio.
Rust-Oleum Paint Corp., Chicago.
Simmons-Boardman Publishing Corp., Chicago.
T. W. Snow Construction Co., Chicago.
Sperry Products, Inc., Hoboken, N. J.
Teleweld, Inc., Chicago.
Timber Engineering Co., Washington, D. C.
U. S. Wind Engine & Pump Co., Batavia, Ill.
Woolery Machine Co., Minneapolis, Minn.

New Price Ceilings on Specialties

Price ceilings for so-called railroad specialties, i.e., side frames, bolsters, couplers, and yokes, are fixed at levels prevailing October 1, 1941, by Amendment No. 1 to Steel Castings Price Schedule No. 41, Leon

THE PROGRESS REPORT OF THE RAILROAD DIVISION OF THE A.S.M.E. FOR 1940-41 STATES:

**"... a gain in drawbar horsepower of
44% at 80 mph"**

"The disclosure of the results of laboratory and road tests of this locomotive*, equipped with the Franklin (oscillating-cam poppet-valve) system of steam distribution, is an outstanding event of the current year. In road tests, the locomotive, which has two 27-in. x 28-in. cylinders, 205 psi working pressure, and 80-in. drivers, developed a maximum horsepower of 2980 at 60-65 mph. Compared with the results of the A.A.R. passenger-train tests, previously reported in this series of papers, the gain in drawbar horsepower was 24 per cent at 60 mph, 33 per cent at 70 mph, and 44 per cent at 80 mph. With a 1000-ton train on level track, the poppet-valve engine attained 88 mph, and the original engine 78.5 mph. In general, the road tests showed the capability of the poppet-valve locomotive to meet the fastest schedules on the fast Fort Wayne-Chicago Division with trains of 13 cars. On the test plant, the locomotive developed a maximum indicated horsepower of 4267 at 75 mph and 4100 at 100 mph. With a steam consumption of 70,000 lb, the engine used about one seventh less steam per indicated horsepower at moderate speeds, and the improvement in economy increased to more than 30 per cent at 100 mph."

*The well-known K-4 Class of the Pennsylvania Railroad



**FRANKLIN RAILWAY SUPPLY
COMPANY, INC.**

NEW YORK

CHICAGO

In Canada: FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL

Henderson, administrator, Office of Price Administration, announced last week. The new prices are listed in the amendment, which is effective as of February 3.

A ceiling based on July 15, 1941, prices originally was set for steel castings, including railroad specialties. This ceiling permitted the steel castings producers to keep a price increase which had been made to July 15, 1941, but eliminated a corresponding increase made by the railroad specialty producers after July 15, 1941. The new amendment permits the corresponding increase for the railroad specialties.

A change also was announced in steel castings. This is applicable in the case of a producer who receives an order for a particular item which he was not making on or prior to July 15, and therefore, one for which he had not filed a price. In such case, where on and after February 5, 1942, a producer makes a steel casting for which he has not previously filed a price with OPA, then such casting must be sold at a price not higher than that listed in the Steel Founders Society's Comprehensive Report for the corresponding casting. As an alternative, or in a case where the particular casting is not listed in the Comprehensive Report, the producer must obtain approval of the proposed selling price from OPA. If OPA does not act upon any such request for approval of a price within six days, the request price is deemed to be approved automatically, it was stated.

Trade practice for steel castings and railroad specialty producers, the OPA announcement said, has been to quote a firm price for a limited period. Permission is granted such producers in the new amendment to quote prices not in excess of OPA levels in effect at time of delivery, where such delivery is not to take place until six months or more after the contract of sale is entered into.

Meetings and Conventions

The following list gives names of secretaries, dates of next or regular meetings and places of meetings:

ALLIED RAILWAY SUPPLY ASSOCIATION.—J. F. Gettrust, P. O. Box 5522, Chicago, Ill.

AMERICAN ASSOCIATION OF FREIGHT TRAFFIC OFFICERS.—W. R. Curtis, G. M. & O. R. R., 105 W. Adams St., Chicago, Ill.

AMERICAN ASSOCIATION OF GENERAL BAGGAGE AGENTS.—E. P. Soebbing, 1431 Railway Exchange Bldg., St. Louis, Mo. Annual meeting, October 6-8, 1942, Omaha, Neb.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—B. D. Branch, C. R. R. of N. J., 143 Liberty St., New York, N. Y.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—F. O. Whiteman, Room 332, Dearborn Station, Chicago, Ill. Annual meeting, May 12-14, 1942, Hotel Stevens, Chicago, Ill.

AMERICAN ASSOCIATION OF RAILWAY ADVERTISING AGENTS.—E. A. Abbott, Poole Bros., Inc., 85 W. Harrison St., Chicago, Ill.

AMERICAN ASSOCIATION OF SUPERINTENDENTS OF DINING CARS.—F. R. Borger, C. I. & L. Ry., 836 S. Federal St., Chicago, Ill.

AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—A. G. Shaver, 310 S. Michigan Ave., Chicago, Ill. Annual meeting, October 20-22, 1942, Hotel Stevens, Chicago, Ill.

AMERICAN RAILWAY CAR INSTITUTE.—W. C. Tabbert, 19 Rector St., New York.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—H. C. Millman, Ind. Agent, Pennsylvania R. R., Union Station, Chicago, Ill.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—Works in cooperation with the Association of American Railroads, Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 17-19, 1942, Palmer House, Chicago, Ill.

AMERICAN RAILWAY MAGAZINE EDITORS' ASSOCIATION.—R. R. Horner (Second Vice-Pres.), Norfolk & Western Magazine, Roanoke, Va.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.—J. H. Hunt, Tower Bldg., Washington, D. C.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—C. E. Davies, 29 W. 39th St., New York, N. Y.

Railroad Division, C. L. Combes, *Railway Age*, 30 Church St., New York, N. Y.

AMERICAN TRANSIT ASSOCIATION.—Guy C. Heckler, 292 Madison Ave., New York, N. Y.

AMERICAN WOOD PRESERVERS' ASSOCIATION.—H. L. Dawson, 1427 Eye St. N. W., Washington, D. C.

ASSOCIATION OF AMERICAN RAILROADS.—H. J. Forster, Transportation Bldg., Washington, D. C.

Operations and Maintenance Department.—Charles H. Buford, Vice-President, Transportation Bldg., Washington, D. C.

Operating-Transportation Division.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.

Operating Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.

Transportation Section.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.

Fire Protection and Insurance Section.—W. F. Steffens, New York Central, Room 3317, 230 Park Avenue, New York, N. Y.

Freight Station Section.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.

Medical and Surgical Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.

Protective Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.

Safety Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.

Telegraph and Telephone Section.—W. A. Fairbanks, 30 Vesey St., New York, N. Y.

Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill.

Annual meeting, March 17-19, 1942, Palmer House, Chicago, Ill.

Construction and Maintenance Section.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill.

Annual meeting, March 17-19, 1942, Palmer House, Chicago, Ill.

Electrical Section.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill.

Signal Section.—R. H. C. Balliet, 30 Vesey St., New York, N. Y.

Mechanical Division.—Arthur C. Brown, 59 E. Van Buren St., Chicago, Ill.

Electrical Section.—J. A. Andreucci, 59 E. Van Buren St., Chicago, Ill.

Purchases and Stores Division.—W. J. Farrell (Executive Vice-Chairman), Transportation Bldg., Washington, D. C.

Freight Claim Division.—Lewis Pilcher, 59 E. Van Buren St., Chicago, Ill.

Annual meeting, April 28-29, 1942, Chicago, Ill.

Motor Transport Division.—George M. Campbell, Transportation Bldg., Washington, D. C.

Car-Service Division.—E. W. Coughlin, Transportation Bldg., Washington, D. C.

Finance, Accounting, Taxation and Valuation Department.—E. H. Bunnell, Vice-President, Transportation Bldg., Washington, D. C.

Accounting Division.—E. R. Ford, Transportation Bldg., Washington, D. C.

Treasury Division.—E. R. Ford, Transportation Bldg., Washington, D. C.

Traffic Department.—A. F. Cleveland, Vice-President, Transportation Bldg., Washington, D. C.

ASSOCIATION OF RAILWAY CLAIM AGENTS.—F. L. Johnson, Claim Agent, Alton R. R., 340 W. Harrison St., Chicago, Ill. Annual meeting, June 17-19, 1942, Hotel Statler, Buffalo, N. Y.

BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.—P. R. Austin, Johns-Manville Sales Corp., Merchandise Mart, Chicago, Ill.

CANADIAN RAILWAY CLUB.—C. R. Crook, 4415 Marci Ave., N. D. G., Montreal, Que. Regular meetings, second Monday of each month except June, July and August, Windsor Hotel, Montreal, Que.

CAR DEPARTMENT ASSOCIATION OF ST. LOUIS, MO.—J. J. Sheehan, 1101 Missouri Pacific Bldg., St. Louis, Mo. Regular meetings, third Tuesday of each month, except June, July and August, Hotel De Soto, St. Louis, Mo.

CAR DEPARTMENT OFFICERS' ASSOCIATION.—Frank Kartheiser, Chief Clerk, Mechanical Dept., C. B. & Q., Chicago, Ill.

CAR FOREMEN'S ASSOCIATION OF CHICAGO.—G. K. Oliver, 8238 S. Campbell Ave., Chicago, Ill. Regular meetings, second Monday of each month, except June, July and August, La Salle Hotel, Chicago, Ill.

CENTRAL RAILWAY CLUB OF BUFFALO.—Mrs. M. D. Reed, 1840-42 Hotel Statler, McKinley Square, Buffalo, N. Y. Regular meetings, second Thursday of each month, except June, July and August, Hotel Statler, Buffalo, N. Y.

EASTERN ASSOCIATION OF CAR SERVICE OFFICERS.—J. T. Bouger, 424 W. 33rd St. (11th floor), New York, N. Y.

EASTERN CAR FOREMAN'S ASSOCIATION.—W. P. Dizard, 30 Church St., New York, N. Y. Regular meetings, second Friday of January, March, April, May, October and November, 29 W. 39th St., New York, N. Y. Annual dinner, February 26, 1942, Hotel Commodore, New York, N. Y.

LOCOMOTIVE MAINTENANCE OFFICERS' ASSOCIATION.—C. M. Lipscomb, 1721 Parker Street, No. Little Rock, Ark.

MASTER BOILER MAKERS' ASSOCIATION.—A. F. Stiglmeier, 29 Parkwood St., Albany, N. Y.

NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.—Ben Smart, 7413 New Post Office Bldg., Washington, D. C. 1942 meeting, Dallas, Tex.

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—C. H. White, Room 1826, 208 S. La Salle St., Chicago, Ill. Exhibit in connection with A. R. E. A. Convention, March 16-19, 1942, Palmer House, Chicago, Ill.

NEW ENGLAND RAILROAD CLUB.—W. E. Cade, Jr., 683 Atlantic Ave., Boston, Mass. Regular meetings, second Tuesday of each month, except June, July, August and September, Hotel Touraine, Boston, Mass.

NEW YORK RAILROAD CLUB.—D. W. Pye, 30 Church St., New York, N. Y. Regular meetings, third Thursday of each month, except June, July, August, September and December, 29 W. 39th St., New York, N. Y.

PACIFIC RAILWAY CLUB.—William S. Wollner, P. O. Box A, Sausalito, Cal. Regular meetings, second Thursday of each alternate month, at Palace Hotel San Francisco, Cal., and Hotel Hayward, Los Angeles, Cal.

RAILWAY BUSINESS ASSOCIATION.—P. H. Middleton, First National Bank Bldg., Chicago, Ill.

RAILWAY CLUB OF PITTSBURGH.—J. D. Conway, 1647 Oliver Bldg., Pittsburgh, Pa. Regular meetings, fourth Thursday of each month, except June, July and August, Fort Pitt Hotel, Pittsburgh, Pa.

RAILWAY ELECTRIC SUPPLY MANUFACTURERS' ASSOCIATION.—J. McC. Price, Allen-Bradley Company, 600 W. Jackson Blvd., Chicago, Ill.

RAILWAY FUEL AND TRAVELING ENGINEERS' ASSOCIATION.—T. Duff Smith, Room 811, Utilities Bldg., 327 S. La Salle St., Chicago, Ill.

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—J. D. Conway, 1647 Oliver Bldg., Pittsburgh, Pa.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York, N. Y. Meets with Telegraph and Telephone Section of A. A. R.

RAILWAY TIE ASSOCIATION.—Roy M. Edmonds, 903 Syndicate Trust Bldg., St. Louis, Mo. Annual meeting, May 6-7, 1942, Netherland Plaza Hotel, Cincinnati, O.

ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.—A. G. Shaver, 310 S. Michigan Ave., Chicago, Ill. Annual meeting, September 15-17, 1942, Hotel Stevens, Chicago, Ill.

SIGNAL APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York, N. Y. Meets with A. A. R. Signal Section.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—A. T. Miller, 4 Hunter St., S. E., Atlanta, Ga. Regular meetings, third Thursday in January, March, May, July, September and November, Ansley Hotel, Atlanta, Ga.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—D. W. Brantley, C. of Ga. Ry., Savannah, Ga.

TORONTO RAILWAY CLUB.—D. M. George, P. O. Box 8, Terminal "A," Toronto, Ont. Regular meetings, fourth Monday of each month, except June, July and August, Royal York Hotel, Toronto, Ont.

TRACK SUPPLY ASSOCIATION.—Lewis Thomas, Q. and C. Company, 59 E. Van Buren St., Chicago, Ill. Exhibit in conjunction with Roadmasters' and Maintenance of Way Association Convention, September 14-17, 1942, Hotel Stevens, Chicago, Ill.

UNITED ASSOCIATIONS OF RAILROAD VETERANS.—Roy E. Collins, 112 Hatfield Place, Port Richmond, Staten Island, N. Y. Annual meeting, October 10-11, 1942, Baltimore, Md.

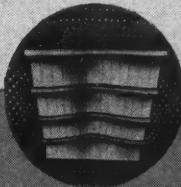
WESTERN RAILWAY CLUB.—E. E. Thulin (Executive Secretary) Room 822, 310 S. Michigan Ave., Chicago, Ill. Regular meetings, third Monday of each month, except January, June, July, August and September, Hotel Sherman, Chicago, Ill.

4 Reasons FOR INSTALLING

SECURITY CIRCULATORS



*any one of them
is reason enough!*



AMERICAN ARCH COMPANY, INC.

60 East 42nd Street, New York, N. Y.

SECURITY CIRCULATOR DIVISION

Construction

CLINCHFIELD.—A contract has been awarded the Ross & White Co., Chicago, for a "Red Devil" locomotive engine coaler to be installed at Spartanburg, S. C.

DELAWARE, LACKAWANNA & WESTERN.—The Pennsylvania Public Utility Commission has approved plans calling for the abolition of the existing highway crossing above grade where state highway route No. 168 crosses over and above the grade of this company's three main line tracks and right of way in Elmhurst township, Pa., and the construction in lieu thereof of a new highway crossing above grade at a point about 75 ft. west of the existing crossing. The present structure is considered hazardous for the operation of vehicular traffic due to the fact that portions of the overhead viaduct and highway approaches thereto are constructed upon sharply curved alignment and steep grades. Detailed plans of the proposed new bridge provide for the construction of a six-span steel and reinforced concrete structure having a total length of about 330 ft., supported upon reinforced concrete piers and reinforced concrete abutments on pile foundations. It is planned to dismantle and remove the existing bridge. Total cost of the improvement is estimated at \$212,431.

DOMINION COAL COMPANY, LTD.—The Railroad division of the Dominion Coal Company, Ltd., Glace Bay, Nova Scotia, has purchased an automatic electric skip bucket type of locomotive coaler from the Ross and White Company, Chicago.

NEW YORK, NEW HAVEN & HARTFORD.—This company has awarded a contract for the construction of a one-story brick building at Bridgeport, Conn., at estimated cost of \$75,000 to Ernest F. Carlson, Inc., of Springfield, Mass. The building, which will be 80 ft. by 115 ft. and include a 12-ft. covered platform 150 ft. long, will be leased to the New England Transportation Company.

PENNSYLVANIA.—Improvements and additions to the freight handling facilities of the Pennsylvania in the New York harbor district will be carried out at a cost of nearly one million dollars. The most extensive of the projects will be the enlargement of Meadows yard at South Kearny, N. J., where additional track facilities will be built at a cost of \$800,000. Four groups of additional storage tracks, totalling nearly 15 miles in length, will be laid east of the Manhattan produce yard, and 54 turnout switches and two cross-over switches will be installed. It will also be necessary to rearrange extensively the overhead system of electric power wires and to build additional pole lines.

Meadows yard, which serves as a supporting yard for Harsimus cove in Jersey City, N. J., is now made up of 98 tracks with a total capacity of 6,000 cars. The projected improvements will increase the capacity by approximately 1,000 cars. The additional capacity is required to handle the increasing traffic which is moving through the yard.

The freight-carrying capacity of the railroad's floating equipment in the harbor will be increased by the conversion of ten 80-ft. steel open-deck lighters into covered barges. This will be done by the erection of cargo houses on the lighters which will be converted at the rate of two a month. In addition, the company has 15 new covered barges on order and deliveries are scheduled to start in the early spring.

Equipment and Supplies

THE STATE RAILWAYS BOARD OF ARGENTINA has received a credit of ten million pesos for the purchase of rolling stock and rail materials under the provisions of a decree issued toward the end of 1941, according to a United States Department of Commerce report. The equipment to be purchased includes 700 freight cars, 15 locomotives and material for a 300-kilometer stretch of line. If orders are placed in the United States, preferential treatment in the matter of priority privileges for the necessary materials will be requested of the United States Government. The above-mentioned equipment will be in addition to orders for 550 box cars placed in September, 1941, which are expected to be delivered during the second quarter of 1942, as reported in the summary of 1941 freight car orders in the *Railway Age* of January 3. Specific inquiries for new freight cars by the Argentine State Railways are reported elsewhere in this column. The inquiry for 15 steam locomotives of 4-6-2 wheel arrangement was reported in the *Railway Age* of January 17.

LOCOMOTIVES

THE ST. LOUIS SOUTHWESTERN is reported to be contemplating building five steam locomotives of the 4-8-4 type.

THE BOSTON & MAINE has issued inquiries for five steam locomotives of the 4-8-2 type.

THE ST. LOUIS SAN FRANCISCO has asked the district court for permission to purchase eight 1,000 hp. and two 600 hp. Diesel-electric switching locomotives.

THE NEW YORK, NEW HAVEN & HARTFORD has placed an order for five 11,000-volt single-phase electric freight locomotives weighing 250 tons with the General Electric Company.

FREIGHT CARS

Southern Buys 2,500 Cars

The Southern has placed an order for 2,500 all-steel hopper coal cars of 50 tons' capacity with the Pullman-Standard Car Manufacturing Company. The cost of the new equipment will be approximately \$6,500,000. The road still has pending an inquiry for 1,000 all-steel drop-bottom high-side gondola cars of 50 tons' capacity. The inquiry for this equipment was reported in the *Railway Age* of January 31.

THE TENNESSEE CENTRAL is reported to be in the market for 100 hopper cars.

THE PERE MARQUETTE has ordered 250 70-ton flat cars from the Greenville Steel Car Company.

THE DELAWARE & HUDSON has ordered 12 steel box cars of 50 tons' capacity from the American Car & Foundry Co.

THE CARNEGIE-ILLINOIS STEEL CORPORATION is reported to be in the market for 25 gondola cars of 70 tons' capacity.

THE NASHVILLE, CHATTANOOGA & ST. LOUIS has ordered 50 all-steel covered hopper cars of 50 tons' capacity from the American Car & Foundry Co.

THE ST. LOUIS-SAN FRANCISCO has ordered steel underframes, assembled car sides and miscellaneous forgings for 70 50-ton box cars from the American Car & Foundry Co.

THE UNITED STATES WAR DEPARTMENT is inquiring for a total of 470 narrow-gage eight-wheel freight cars, including 350 30-ton box cars and 120 30-ton gondola cars.

THE UNITED STATES NAVY DEPARTMENT, supply officer, Puget Sound, Bremerton, Wash., has ordered nine steel flat cars of 50 tons' capacity from the American Car & Foundry Co.

THE ARGENTINE STATE RAILWAYS are inquiring for from 225 to 450 box cars of 25 metric tons' capacity. These are in addition to inquiries for 400 flat cars of 40 tons' capacity and 50 9,500-gal. tank cars reported in the *Railway Age* issues of January 17 and January 24, respectively.

IRON & STEEL

THE READING has placed an order for 10,000 tons of 130-lb. rail with the Bethlehem Steel Company.

SIGNALING

THE GREAT NORTHERN has placed orders with the General Railway Signal Company covering materials for d-c. block signaling between Vancouver, B. C., and South Bellingham, Wash., a distance of 61 miles. Included in the order are 84 Type-D 3-aspect, 2 Type D 2-aspect color-light signals, 319 Type-K relays, 107 Type-W relays, 47 Type-BT, Size 132, rectifiers, 29 Type-BQ, Size-1/2 rectifiers, 29 Type-K, Size-1 transformers, 50 Model-7 switch circuit controllers, in addition to other miscellaneous apparatus such as poles, ladders, relay cases, etc.

THE SEABOARD Air Line has contracted with the Union Switch & Signal Company for the materials required for centralized traffic control between Savannah, Ga., and Thalmann, involving 62 miles of single track. The control machine with an automatic train graph, will be located at Savannah. The centralized traffic control line circuit will be arranged for voice communication. All relay and instrument housings are being factory wired before shipment, with the field installation work

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Make
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Mistake
About It...

ELESCO

exhaust steam injectors provide the highest
heat recovery of any feedwater heater per
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Apply the Elesco exhaust
steam injector to your new
power and to your existing
locomotives that need more
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SUPERHEATERS • FEEDWATER HEATERS
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EXHAUST STEAM INJECTORS • PYROMETERS

THE
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C O M P A N Y

Representative of
AMERICAN THROTTLE COMPANY, INC.
60 East 42nd Street, NEW YORK
122 S. Michigan Ave. CHICAGO
Montreal, Canada
THE SUPERHEATER COMPANY, LTD.

to be carried out by the regular signal construction forces of the Seaboard.

THE PUBLIC BELT RAILROAD COMMISSION OF NEW ORLEANS has placed an order with the Union Switch & Signal Company, covering the necessary materials for the installation of automatic block signals on 7.5 miles of double track of the New Orleans Public Belt and automatic interlockings at two Illinois Central double-track crossings with the Belt between Southport interlocking and Race street, New Orleans, La. Searchlight high signals, color-light dwarf signals and switch indicators will be used. All relay houses and instrument cases will be factory wired before shipment.

THE ATCHISON, TOPEKA & SANTA FE has placed a contract with the General Railway Signal Company for an 80-lever Model-2 unit-lever interlocker for the control of the crossing of the Santa Fe with a single-track line of the Western Pacific and a 4-track line of the Southern Pacific at Stockton, Calif. The interlocker has 25 spare spaces and 55 working levers, controlling 5 crossovers, 5 single switches, 14 derails, and 32 signals. In addition to the interlocker, the order calls for 2 Type SA 3-aspect bridge signals, 17 Model 5-A switch machines, switchboards, copper-oxide rectifiers, transformers, and welded steel instrument cases.

THE CHICAGO, ROCK ISLAND & PACIFIC has placed an order with the Union Switch & Signal Co. for an extensive installation of centralized traffic control, automatic continuously-controlled cab signals, and wayside signaling on the busy double track between Blue Island, Ill., and Rock Island, a distance of 165 miles. The existing Regan intermittent train control will be entirely replaced by a complete new four-indication Union continuous inductive cab signal system for operation over the entire territory.

The new installation will provide for reverse direction operation over certain strategic sections of double track to be operated by centralized traffic control. A total of 80 sets of cab signal equipment will be installed, 72 on steam locomotives and 8 on Diesel-electric locomotives. Union centralized traffic control, which will permit train operation by signal indication in both directions on each track, will be installed between Blue Island and Morris; Spring Valley and West End Bureau, and from a point east of Atkinson to the east end of Silvis Yard; a total of 86 miles of double track. The existing semaphore signals will be replaced by light type signals. In general, Union Style H-2 searchlight high signals will be used for home signals at interlockings, Style H-2 searchlight dwarf signals will be installed for reverse direction automatic signals, and Union Style TP-5 high light type signals will be used for normal direction automatic signals. Union coded track circuits will be installed for control of all automatic signals. The signal apparatus is being furnished by the Union Switch & Signal Co., with the field installation to be carried out by the railway company's regular signal construction forces.

THE CENTRAL RAILWAY OF BRAZIL, which serves the most highly developed industrial areas of Brazil, has undertaken an extensive installation of signal and interlock facilities, the purpose of which is to increase the capacity of the system in certain areas for present and particularly further expansion of the traffic over this important line under the existing emergency conditions. The installation of a new steel mill at Volta Redonda will introduce a considerable additional demand upon the traffic facilities of this railway on its line from Redonda north through Barra do Pirahy and continuing to Bello-Horizonte, a total distance of approximately 335 miles. It is estimated that approximately one million tons of iron ore will be brought down over this line annually from the state of Minas Geraes. The line is single track with passing sidings at all stations. The railway has contracted with the Union Switch & Signal Co. for the equipment necessary to install centralized traffic control throughout the entire territory between Barra do Pirahy and Bello-Horizonte, a total distance of 310 miles. This territory is divided into four sections of C. T. C. as follows:

Barra do Pirahy to Entre Rios.....	53 miles
Entre Rios to Santos Dumont.....	76 "
Santos Dumont to Lafayette.....	82.8 "
Lafayette to Bello-Horizonte.....	99.6 "

Within this territory there are three important terminal points at which "UR" route interlockings are to be installed. These plants will be located at Entre Rios, Juiz de Fora, and Santos Dumont, with the interlocking material being supplied by the Union Company along with the C. T. C. equipment.

At Volta Redonda, the site of the new steel mill, additional yards and interlocking facilities become necessary to handle the ore trains as well as other materials required for the production of steel and the traffic incident to transporting the finished produce from the mill to the various destinations. A contract has been placed with the Union Switch & Signal Co. for the necessary equipment for the installation of an all-relay power-operated interlocking at this point.

The Union Switch & Signal Company's C. T. C. equipment is being incorporated in all of the C. T. C. installations. The two-wire line circuits for transmission of controls and indications will also be equipped so as to carry voice communication over the same pair of wires. The signals are of the three-indication searchlight type, and all power-operated switches in the C. T. C. territory are equipped with low voltage Style M-22A dual control movements. Within the interlockings, Style M-2, 110-volt electric switch and lock movements will be employed. The instrument cases will be completely wired at the Swissvale plant of the Union Switch & Signal Company before shipment. The field installation work will be carried out by the railway company's signal construction forces.

MOTOR VEHICLES

THE INDIANA SERVICE CORPORATION, Ft. Wayne, Ind., has placed an order for 40 44-passenger single-motored trolley coaches with the J. G. Brill Company.

Supply Trade

General Railway Signal Company Annual Report

Net income reported by the General Railway Signal Company for 1941 totaled \$796,991, as compared with \$526,761 in 1940. Current assets at the year-end were \$8,899,497 and current liabilities \$3,694,400. The company states that the past year witnessed a substantial increase in purchases of signal equipment and systems by the railroads. Repair and renewal orders were the highest in its history, and contracts for new systems were received in satisfactory volume. Unfilled orders of signalling materials at the year-end will permit of operations at the present rate well into this year. From present indications it would appear that the company's existing facilities for munitions will operate at capacity during the war and it is not unlikely that these facilities may have to be further increased.

Westinghouse Electric & Manufacturing Co. Annual Report

Orders received during 1941 by the Westinghouse Electric & Manufacturing Co. amounted to \$582,808,634, compared with \$400,477,724 in 1940, an increase of 46 per cent. This amount does not include \$30,757,103 worth of orders placed with the company for production at ordnance plants being operated by Westinghouse for the United States Navy. Net sales billed amounted to \$369,094,124 in 1941, as compared with \$239,431,447 in 1940, an increase of 54 per cent. Unfilled orders at December 31, 1941, totaled \$419,550,654, compared with \$223,685,737 at the end of 1940, an increase of 88 per cent. Net income during the year reached \$23,117,510, or \$7.21 per share of capital stock, compared with \$18,985,428 in 1940, an increase of 22 per cent. Dividends totaling \$14,424,911 were paid during the year, at the rate of \$5 per share on each share of preferred and common stock.

More than 19,000 employees joined the company in 1941 to help handle the record production load, and employment is now at an all-time high of 77,877, compared with 58,503 at the beginning of 1941. More than 300 subcontractors have been engaged to produce apparatus or parts normally manufactured in Westinghouse plants and subcontracts amounted to \$18,546,505 in 1941.

Henry H. Howard, manager of the engine sales division of the Caterpillar Tractor Company, has been called to Washington to take up temporary wartime duties in the War Department as consultant to Col. J. K. Christmas of the Ordnance department.

John P. Dennis has been appointed assistant traffic manager for the Texas Company with headquarters at New York. Mr. Dennis was formerly assistant to the vice-president in charge of traffic of the Northern Pacific at St. Paul, Minn.

Howard D. Grant has been elected executive vice-president and chairman of the executive committee of Whiting Corporation, Harvey, Ill., and Stevens H. Ham-

mond, vice-president, has been elected a member of the executive committee. Mr. Grant takes over the duties of Gen. Thomas S. Hammond, president, who has resigned as president and a director of the company to devote his full time to the Chicago Ordnance district staff as chairman of the executive committee. Mr. Grant also succeeds C. Q. Wright, Jr., who has resigned to become naval adviser in the Contract Distribution Branch of the War Production Board in Chicago. Mr. Stevens H. Hammond will supervise all of the company's sales activities.

Approximately three million persons during 1941 attended showings of the United States Steel Corporation's educational films depicting the making of steel, an increase of 16 per cent over 1940. The films were projected 30,000 times—United States Steel films, which are available through distribution centers located in the company's offices in New York, Chicago, Pittsburgh, Pa., Cleveland, Ohio, Birmingham, Ala., and San Francisco, Cal., are being widely used by national defense training classes in arsenals, colleges and industrial plants as visual aids in fitting trainees for national defense jobs. In some courses of study, the seven-reel film entitled "The Making and Shaping of Steel" and other shorter United States Steel films are required as a regular part of the curriculum.

OBITUARY

Earl C. Alexander, chief engineer of the Massey Concrete Products Company, with headquarters at Chicago, died in that city on February 9.

Thomas J. Connor, vice-president in charge of production and a member of the board of directors of the Caterpillar Tractor Company, died suddenly of a heart attack at his home on January 23. He was 48 years of age.

TRADE PUBLICATIONS

ELECTRIC STRAIN GAGE.—An eight-page booklet (GEA-3673) recently issued by the General Electric Company describes electric gages available for measuring mechanical strains. In an interesting and easily understandable manner, this well-illustrated booklet describes the different types of gages available, and discusses their operation. Stating that the field of application for strain-gage equipment is almost unlimited, the descriptive bulletin goes on to list a few examples of types of stress investigations that can be made. Included among these are the determination of stresses on bridges, tanks, and structural parts; stresses in the rails of railroad tracks; housings of rolling mills; locomotive running gear; beams of shovels and cranes; aircraft structures while in flight; ship hulls and structures; frames of trucks and automobiles. Also for indicating peak stress in connecting rods of large punch presses and press brakes; for indicating the maximum permissible load on the rolls of roll-bending machinery; and for the determination of stresses in gun carriages caused by gun recoil.

Financial

ATLANTIC COAST LINE.—*Abandonment*.—This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon a portion of a branch line extending northeasterly from a point 3.3 miles from Eutawville, S. C., to the end of the line at Ferguson, 2.1 miles.

BALTIMORE & OHIO.—*Operation*.—This company would be authorized to operate over the Cherry River Boom & Lumber Company's main line extending generally eastward along the Gauley River from Alingdale, W. Va., to Scotti Junction, 35.2 miles, and short branches therefrom up the south fork of the Gauley River to Jones Camp, 1.5 miles, and up Straight Creek to Belin, 1.9 miles, or a total of 38.6 miles, if Division 4 of the Interstate Commerce Commission adopts a proposed report of its Examiner R. R. Molster. Examiner Molster goes on to say that to the extent that the lumber company would be granted user rights in the lines in the event title thereto passed to the B. & O., the provisions of Article VIII of the trackage contract are unlawful, because discriminatory against other shippers; and the commission should require that the trackage contract be amended by elimination of this provision.

SEABOARD AIR LINE.—*Abandonment by the Georgia, Florida & Alabama*.—The Georgia, Florida & Alabama, and the Seaboard Air Line, respectively, would be authorized to abandon (1) the so-called Carrabelle branch, extending from Tallahassee, Fla., southerly to Carrabelle, 48.4 miles, and (2) the so-called East Quincy branch, extending from Havana, Fla., westerly to East Quincy, 11.3 miles and the operation thereof, if Division 4 adopts a recommended report of its Examiner Lucian Jordan.

SOUTHERN PACIFIC.—*Abandonment*.—Division 4 of the Interstate Commerce Commission has dismissed for want of jurisdiction this company's application in Finance Docket No. 13584 wherein it seeks authority to abandon a switching track extending from the intersection of Fifth Street and Lincoln Avenue to the intersection of Main Street and Atlantic Avenue in the city of Alameda, Calif.

UNION PACIFIC.—*Abandonment by the Los Angeles & Salt Lake*.—The Los Angeles & Salt Lake and the Union Pacific, respectively, have asked the Interstate Commerce Commission for authority to abandon the Frisco branch and the operation thereof, extending from the main line at Milford, Utah, to the end of the line at Frisco, 16.4 miles.

Average Prices of Stocks and Bonds

	Last Feb. 10	Last week	Last year
Average price of 20 representative railway stocks..	28.69	29.11	29.43
Average price of 20 representative railway bonds..	65.88	66.10	63.28

Dividends Declared

Boston & Albany.—\$2.00, payable March 31 to holders of record February 28.
Cleveland & Pittsburgh.—87½¢, quarterly; Special Guaranteed, 50¢, quarterly, both payable March 2 to holders of record February 10.

Railway Officers

EXECUTIVES

E. W. Englebright has been appointed assistant to the president of the Western Pacific, with headquarters at San Francisco, Cal.,

R. F. Lehman, general superintendent of the Minnesota, Dakota & Western, has been promoted to assistant to the resident vice-president, with headquarters as before at International Falls, Minn., a newly created position.

James J. Thompson, special representative in the general manager's office of the Tennessee Central, has been promoted to mechanical assistant to the president, with headquarters as before at Nashville, Tenn.

FINANCIAL, LEGAL AND ACCOUNTING

F. L. Cox has been appointed treasurer of the Frankfort & Cincinnati, with headquarters at Frankfort, Ky., succeeding **C. Bowles**, retired.

L. S. Wilbur, chief clerk in the statistical division of the Chesapeake & Ohio, has been appointed to the newly-created position of statistician, with headquarters at Richmond, Va.

H. G. Flory, acting auditor of freight revenue of the Chicago, South Shore & South Bend, has been appointed auditor of freight revenue, with headquarters as before at Michigan City, Ind.

H. J. Sutherland, tax agent of the Western Pacific, has been appointed tax commissioner, with headquarters as before at San Francisco, Cal., a change of title.

H. E. Pence has been appointed treasurer of the Minneapolis, Northfield & Southern and the Minnesota Western, with headquarters at Minneapolis, Minn., succeeding to a portion of the duties of **J. D. Osborn**, secretary and treasurer, who continues as secretary.

J. M. Morrison has been appointed general accountant of the Minnesota, Dakota & Western, with headquarters at International Falls, Minn., succeeding **Warner La Du**, whose appointment as general superintendent is reported elsewhere in these columns.

Albert A. Pratts, chief clerk in the freight claims department of the Southern Pacific Lines in Texas and Louisiana, has been promoted to assistant freight claim agent, with headquarters as before at Houston, Tex., succeeding **O. L. Hingle**, deceased.

H. Meyer, chief clerk to the auditor of revenue of the Missouri-Kansas-Texas at St. Louis, has been promoted to auditor of revenue, with the same headquarters, suc-

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Transportation— the Backbone of the Nation

GENERAL MOTORS
LOCOMOTIVES



Who Serves the Railroad

Meeting the Challenge

AMERICAN railroads are today faced with the greatest transportation responsibility in our nation's history, that of moving the fast growing army of men, materials and supplies with safety and dispatch.

In meeting this challenge, General Motors Diesel locomotives in all classes of service are playing an important part, not only in promoting the conservation of vital war materials, such as metals and fuel, but many other operating advantages and economies. In this program the GM 5400 Hp. Diesel freight locomotives are particularly outstanding as evidenced by their ability to:

- (a) Effect savings in train miles as much as 50 per cent, making one Diesel train mile the equivalent of two steam train miles.
- (b) Release for other important service as many as five heavy steam locomotives for each Diesel locomotive operated.
- (c) Increase the traffic hauling and time capacity; also availability for service.
- (d) Provide faster schedules by eliminating many service delays now required for steam locomotives.
- (e) Increase carrying capacity of existing track facilities without expensive rail replacements and rebuilding of bridge structures . . . this due to even weight distribution and low axle load of Diesels.



ELECTRO-MOTIVE
GENERAL MOTORS CORPORATION



Roads — SERVES AMERICA

Conservation of War Materials

THE CONSERVATION of vital and strategic war materials made possible by the construction of Diesels instead of steam locomotives is clearly shown in the following comparisons:

- (a) **192 TONS** of materials in the form of two 600 Hp. Diesel switchers will do the work of **420 TONS** of such materials in the form of three 6-wheel steam switchers.
- (b) **240 TONS** of materials in the form of two 1000 Hp. Diesel switchers will do the work of **495 TONS** of such materials in the form of three 8-wheel steam switchers.
- (c) **585 TONS** of materials in the form of two 4000 Hp. Diesel passenger locomotives will do the work of **1250 TONS** of such materials in the form of five modern steam passenger locomotives.
- (d) **415 TONS** of materials in the form of one 5400 Hp. Diesel freight locomotive will generally do the work of **1200 TONS** of such materials in the form of four 4-8-4 modern steam freight locomotives, or **900 TONS** in the form of two Mallet steam locomotives.

MODERNIZE TO MOBILIZE WITH GM DIESELS



GENERAL MOTORS
ELECTRIC DIVISION
LA GRANGE, ILLINOIS, U. S. A.

ceeding **E. N. Larson**, who has been advanced to auditor of the M-K-T of Texas, with headquarters at Dallas, Tex., replacing **O. H. Bower**, deceased.

J. A. Quinn, auditor of disbursements of the Southern Pacific at San Francisco, Cal., has been appointed auditor of payroll accounts, with the same headquarters, and **U. E. Nordeen**, assistant to the general auditor at San Francisco, has been appointed auditor of disbursements, succeeding Mr. Quinn.

M. R. Wendt, assistant general attorney of the Pullman Company, has been promoted to assistant general solicitor, with headquarters as before at Chicago, succeeding **H. S. Anderson**, whose promotion to general solicitor, was reported in the *Railway Age* of December 6. **F. B. Kinne** and **Walter S. Greenlaw** have been appointed assistant general attorneys.

Gilbert C. Reveille, whose appointment as general auditor of the Norfolk Southern at Norfolk, Va., was reported in the *Railway Age* of January 31, was born on September 3, 1892, at Norfolk. He entered railroad service on September 10, 1907, as messenger boy in the freight accounting department of the Norfolk South-



Gilbert C. Reveille

ern, subsequently serving as junior clerk, bookkeeper and assistant general bookkeeper. From April 23, 1919, to January 1, 1920, Mr. Reveille was accountant for the United States Railroad Administration, returning to the Norfolk Southern on the latter date as general bookkeeper. Mr. Reveille then served successively as chief clerk, auditor of receipts and auditor of disbursements. On June 6, 1938, he was appointed chief accounting officer, the position he held until his recent appointment as general auditor.

Robert S. Gawthrop, general attorney for the Pennsylvania at Philadelphia, Pa., has been promoted to general solicitor, succeeding **John Dickinson**, whose appointment as general counsel was reported in the *Railway Age* of January 10.

OPERATING

J. T. Waddell, assistant superintendent of the Tennessee Central, has been promoted to superintendent, with headquarters

as before at Nashville, Tenn., succeeding to a portion of the duties of **H. R. Manby**, superintendent and chief engineer, who continues as chief engineer.

Edwin H. Shaufler, assistant to the general manager of the Western lines of the Atchison, Topeka & Santa Fe, with headquarters at Amarillo, Tex., has retired.

P. S. Hughel has been appointed assistant superintendent of telegraph on the New York Central system, with headquarters at Detroit, Mich., succeeding **A. Behner**, who retired on January 31.

C. H. Fritz, acting car accountant of the Chicago, South Shore & South Bend, has been appointed car accountant, with headquarters as before at Michigan City, Ind.

P. J. Lynch, superintendent of transportation of the Union Pacific, with headquarters at Omaha, Neb., has been appointed general superintendent of transportation, with the same headquarters, a change of title.

J. L. Bugarini has been appointed assistant general manager of the Pacific division of the Kansas City, Mexico & Orient, with headquarters at Los Mochis, Sin., succeeding **Luis H. Alvarado**, who has been transferred to the Chihuahua division, with headquarters at Chihuahua, Chi., replacing **Jose B. Almeyda**.

Warner La Du, general accountant of the Minnesota, Dakota & Western, with headquarters at Minneapolis, Minn., has been appointed general superintendent, with headquarters at International Falls, Minn., succeeding **R. F. Lehman**, whose promotion to assistant to the resident vice-president is reported elsewhere in these columns.

G. C. Pendleton, agent-yardmaster on the Chicago, Rock Island & Pacific at Topeka, Kan., has been promoted to terminal trainmaster at Des Moines, Iowa, succeeding **I. D. May**, who has been appointed trainmaster at that point, a newly created position. **James Hope**, mine manager at Williamson, Iowa, has been appointed trainmaster at El Reno, Okla., relieving **C. H. Anderson**, who has been transferred to Blue Island, Ill., replacing **C. R. Harter**, assigned to other duties. **J. W. Detrick**, terminal trainmaster at El Reno, has been appointed trainmaster at that point, a change of title.

S. J. Hale, assistant superintendent of the Pocahontas division of the Norfolk & Western, with headquarters at Bluefield, W. Va., has been transferred to the Radford division, with headquarters at Roanoke, Va., succeeding **H. B. Smith**, whose promotion to superintendent of the Pocahontas division at Bluefield was reported in the *Railway Age* of February 7. **J. G. Hunter**, assistant superintendent of the Shenandoah division at Roanoke, has been transferred to the Pocahontas division at Bluefield, succeeding Mr. Hale. **O. H. Woolwine**, roadmaster of the Shenandoah division at Buena Vista, Va., has been promoted to assistant superintendent of the Shenandoah division, to succeed Mr. Hunter.

W. K. Morton, chief clerk in the office of the vice-president and general manager of the Chesapeake & Ohio, has been appointed to the newly-created position of assistant to the general manager, with headquarters as before at Richmond, Va. **L. C. Spengler**, superintendent of the Newport News-Norfolk Terminal division, has been appointed assistant to the general superintendent, Eastern General division, with headquarters at Newport News, Va. **J. F. Shaffer**, superintendent of terminals, Chicago, has been appointed superintendent of the Newport News-Norfolk Terminal division, with headquarters at Newport News, Va. **E. H. Taylor**, chief clerk to the executive vice-president at Cleveland, Ohio, has been promoted to superintendent of terminals, Chicago.

H. B. Smith, whose promotion to superintendent of the Pocahontas division of the Norfolk & Western at Bluefield, W. Va., was reported in the *Railway Age* of February 7, entered the service of the Norfolk & Western in June, 1920, as telegraph operator. Seven years later he was promoted to train dispatcher and on November 9, 1936, he was appointed assistant yardmaster at Wilco, W. Va. Mr. Smith served in the latter capacity until June,

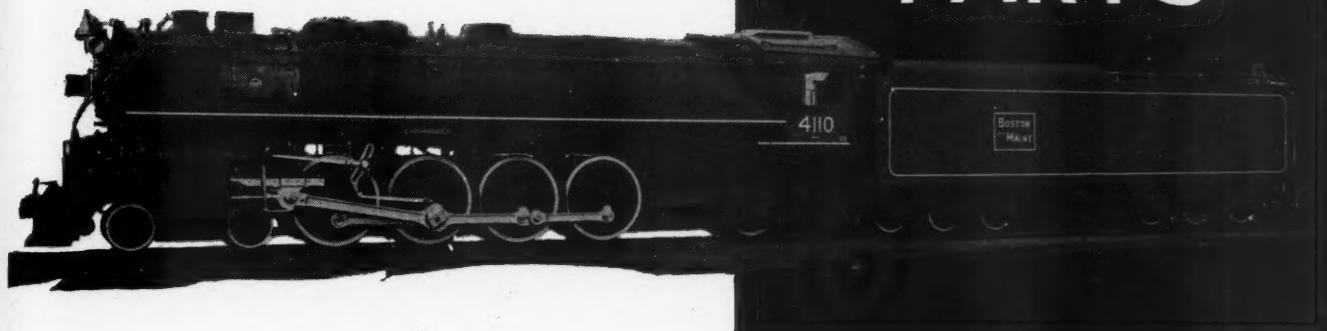


H. B. Smith

1937, when he was promoted to yardmaster at Clift Yard. Later he became assistant trainmaster at Crewe, Va., and in 1939 he was transferred to the Scioto division. In the following year he was promoted to trainmaster of the Pocahontas division and in April, 1941, he was appointed assistant superintendent of the Radford division at Roanoke, which position he held until his recent promotion.

L. J. Robbins, whose promotion to division superintendent on the New York Central (Michigan Central), with headquarters at Detroit, Mich., was reported in the *Railway Age* of January 31, was born near St. Thomas, Ont., on August 3, 1887, and attended the St. Thomas Collegiate Institute and St. Thomas Business College. He entered railway service in 1906 as a clerk in the locomotive foreman's office on the Grand Trunk (now part of the Canadian National) at St. Thomas and in 1908 he was promoted to chief clerk to the trainmaster. In 1911 he went with the Wabash as a brakeman and in March, 1912, he went with the Michigan Central as a

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clerk in the superintendent's office at Detroit. In January, 1913, he transferred to train service as a yard brakeman and on September 20, 1915, he was advanced to yardmaster at Detroit. Four years later he was promoted to general yardmaster



L. J. Robbins

and on December 8, 1919, he was advanced to trainmaster at Lansing, Mich., later being transferred to Bay City, Mich., and Detroit. Mr. Robbins was promoted to night assistant superintendent of terminals at Detroit on October 15, 1923, and on August 1, 1932, he was appointed terminal trainmaster. On February 1, 1938, he was promoted to assistant superintendent of the Detroit division and on October 1, 1941, he was appointed acting superintendent at Detroit, the position he held until his recent promotion, effective January 1.

Frank L. Aitcheson, whose appointment as assistant general superintendent of the Florida East Coast at St. Augustine, Fla., was reported in the *Railway Age* of January 17, was born on September 12, 1896, at Baltimore, Md. Mr. Aitcheson attended the public schools of Baltimore and entered railway service on September 1, 1910, with the Florida East Coast as trucker-messenger in the Stores depart-



Frank L. Aitcheson

ment. On November 1, 1911, he became clerk in the general auditor's office and on August 1, 1913, he was appointed time clerk in the general superintendent's office. He became assistant timekeeper on June 20, 1920, and executive chief clerk to gen-

eral superintendent transportation on October 1, 1921, becoming assistant to general superintendent transportation on October 1, 1924. Mr. Aitcheson was appointed office manager to assistant general manager on April 1, 1926, and on March 16, 1935, he became assistant to general superintendent, which position he held until his recent appointment.

Eric E. Wright, whose promotion to assistant general manager on the New York Central (Michigan Central), with headquarters at Detroit, Mich., was reported in the *Railway Age* of January 31, was born at Grand Island, Neb., on December 21, 1888, and entered railway service on November 10, 1909, in the maintenance of way department of the Michigan Central, later serving as a yard clerk, yard brakeman and yard conductor at Michigan City, Ind. On January 1, 1916, he was advanced to yardmaster and on March 1, 1918, he was promoted to general yardmaster. In March, 1920, he was transferred to Niles, Mich., and nine months later he was promoted to trainmaster at that point, later being transferred to Michigan City. On April 16, 1923, Mr. Wright



Eric E. Wright

was promoted to assistant superintendent, with headquarters at Jackson, Mich., and on January 4, 1928, he was advanced to superintendent of the Canada division, with headquarters at St. Thomas, Ont. He was transferred to the West division, with headquarters at Chicago, on September 15, 1930, and to the Detroit division, with headquarters at Detroit, on May 1, 1932, holding the latter position until his recent promotion, effective January 1.

Alfred M. Ball, whose promotion to superintendent of transportation of the St. Louis-San Francisco, with headquarters at Springfield, Mo., was reported in the *Railway Age* of January 31, was born at Springfield on March 8, 1903, and attended Draughon's Business College at Springfield. He entered railway service on January 26, 1920, as a stenographer in the office of the superintendent of motive power of the Frisco at Springfield and seven months later he was appointed a stenographer-clerk in the office of the superintendent of transportation. On June 27, 1921, he was promoted to secretary to the superintendent of transportation at Springfield and on May 5, 1925, he was advanced to secretary to the

vice-president at St. Louis, Mo., later being advanced to secretary to the president on November 1, 1926, and secretary to the trustee on November 1, 1934. On December 1, 1934, Mr. Ball was promoted to



Alfred M. Ball

chief clerk to the trustee and on July 8, 1935, he was appointed inspector of passenger transportation on the staff of the general manager at Springfield. On March 1, 1937, he was promoted to assistant superintendent of the Eastern division and on July 16, 1938, he was advanced to assistant superintendent of transportation, which position he held until his recent promotion.

TRAFFIC

Edward J. England has been appointed general agent for the Green Bay & Western at Chicago.

Flake Willis has been appointed traffic manager of the Apache Railway, with headquarters at McNary, Ariz.

J. W. Wheeler, assistant general agent, Chesapeake & Ohio, has been promoted to general agent, with headquarters as before at Newport News, Va.

F. J. Fuerst, acting division freight agent on the Missouri-Kansas-Texas at St. Louis, Mo., has been promoted to division freight agent, with the same headquarters.

O. L. Grisamore, assistant general freight agent on the Illinois Central at Chicago, has been transferred to Washington, D. C.

J. M. Jensen, livestock agent on the Denver & Rio Grande Western at Salt Lake City, Utah, has been promoted to general agent at Reno, Nev., succeeding **H. L. Virden**, resigned.

D. C. McLeod, agricultural and livestock agent for the Minneapolis, St. Paul & Sault Ste. Marie at Valley City, N. D., has been promoted to general agricultural agent, with the same headquarters.

Claude W. Turner, superintendent of the Washington division of the Railway Express Agency, has been appointed manager, government express transportation, with headquarters at Washington, D. C. Mr. Turner's special duties will be to provide the government departments, particularly the Army and Navy, with the most expedited service possible in con-



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nection with all shipments made for government account by either air or rail express.

O. L. Winslow, general agent for the Chicago, Attica & Southern at Detroit, Mich., has been promoted to assistant general freight agent, solicitation, with the same headquarters. **O. D. Coppedge** has been appointed general agent at Tulsa, Okla.

C. H. Dunn, general freight and passenger agent of the Yadkin, the Blue Ridge, the Danville & Western, the Carolina & Northwestern and the High Point, Randleman, Ashboro & Southern, with headquarters at Atlanta, Ga., has been transferred to Charlotte, N. C.

C. I. Barr, formerly general agent for the Canadian National at Hong Kong, China, who has been on leave of absence in this country, has been appointed freight traffic representative for the Canadian National and the Grand Trunk Western at Seattle, Wash.

R. E. Taylor, traffic manager of the Nevada Northern and the Bingham & Garfield, with headquarters at San Francisco, Cal., has been appointed also traffic manager of the Ray & Gila Valley, with the same headquarters, succeeding **H. B. Tooker**, vice-president—traffic, who has retired.

J. M. Bann, general agent on the Chicago, Rock Island & Pacific at Duluth, Minn., has been promoted to assistant general freight agent at Des Moines, Iowa, succeeding **Ralph I. Colvin**, who has retired. **Ralph R. Shaeffer**, division freight agent at Des Moines, has been appointed general agent at Duluth, replacing Mr. Bann.

Alfred Fynn, assistant general passenger agent on the Erie at Chicago, has been transferred to Cleveland, Ohio, and **A. G. Oldenquist**, city passenger agent at New York, has been promoted to assistant general passenger agent at Chicago, succeeding Mr. Fynn. The position of general passenger agent at Cleveland has been abolished.

Delbert Fields, passenger representative on the St. Louis-San Francisco at St. Louis, Mo., has been promoted to district passenger agent at Chicago, succeeding **Perry W. Wilson**, who has been advanced to division passenger agent at Kansas City, Mo., relieving **F. R. Newman**, who has been appointed city ticket agent at that point.

ENGINEERING & SIGNALING

H. A. Shinkle, assistant valuation engineer on the Eastern lines of the Atchison, Topeka & Santa Fe, has been promoted to valuation engineer, with headquarters as before at Topeka, Kan., succeeding **Austin B. Griggs**, who has retired.

Eugene F. Salisbury, chief engineer—maintenance of the Kansas City Southern and the Louisiana & Arkansas, with headquarters at Shreveport, La., has been appointed chief engineer of both roads, with headquarters at Kansas City, Mo., and

Shreveport, succeeding **Arthur N. Reece**, chief engineer—construction, whose promotion to assistant to the president, was reported in the *Railway Age* of February 7.

Albert Reilly, assistant signal engineer of the Delaware, Lackawanna & Western, has been promoted to signal engineer, with headquarters at Hoboken, N. J., succeeding **J. E. Saunders**, who has been appointed consulting signal engineer. **Roy F. Puls**, signal inspector at Hoboken, has been promoted to assistant signal engineer.

Mr. Reilly, after finishing high school and a night course in electricity, entered the service of the Lackawanna on January 10, 1901, as signal helper on the Morris and Essex division. From May, 1901, to March, 1907, he served successively as batteryman, wireman and maintainer. He became system construction foreman on April 1, 1907, and four years later he was appointed signal inspector on the Syracuse & Utica division. In April, 1912, Mr. Reilly became circuit designer and draftsman. He was promoted to general signal inspector for the Lackawanna in 1916 and in September, 1923, he became assistant signal engineer.

Mr. Saunders was graduated from the Armour Institute of Technology, Chicago, and entered railroad service in 1899, serving as call boy for the Atchison, Topeka & Santa Fe during school vacations. He served that road successively as trainmaster's clerk, signal helper—construction, signal maintainer, chief draftsman, divisional signal foreman and assistant signal engineer. Mr. Saunders entered the employ of the Lackawanna in 1913 as assistant signal engineer at Hoboken. He left in 1914 to become signal draftsman and inspector for the Union Switch & Signal Company. During the subsequent ten years with that company, Mr. Saunders served successively as electrical engineer in charge, assistant chief engineer and assistant to vice-president. In 1924 he returned to the Lackawanna as signal engineer.

PURCHASES AND STORES

Clifford G. Allen has been appointed purchasing agent of the Akron, Canton & Youngstown and the Northern Ohio, with headquarters at Akron, Ohio, succeeding **R. A. McKinnon**, who has resigned.

N. C. Johnson has been appointed acting purchasing agent of the Nashville, Chattanooga & St. Louis, with headquarters at Nashville, Tenn., succeeding **J. M. Paulus**.

B. G. Imre, a clerk in the purchasing department of the Illinois Central at Chicago, has been promoted to commissary storekeeper, with the same headquarters, succeeding to portion of the duties of **G. W. Schroeder**, commissary and stationery storekeeper at Chicago, who has been appointed stationery storekeeper.

A. W. Hix, assistant general purchasing agent of the Chesapeake & Ohio, the New York, Chicago & St. Louis (Nickel Plate) and the Pere Marquette, with headquarters at Cleveland, Ohio, has been promoted to acting general purchasing agent, with the same headquarters, succeeding **Richard M.**

Nelson, who has been granted a leave of absence because of ill health.

SPECIAL

C. E. Day has been appointed manager, bureau of transportation research, of the Southern Pacific, with headquarters at San Francisco, Cal., succeeding **Vaile S. Andrus**, whose promotion to assistant to the president was reported in the *Railway Age* of January 10.

OBITUARY

D. M. McGee, general agent of the Chicago, Milwaukee, St. Paul & Pacific at St. Paul, Minn., and president of the St. Paul Transportation Club in 1941, died suddenly in that city on February 9.

John F. Seger, who retired in August, 1939, as auditor of overcharge claims of the Louisville & Nashville, at Louisville, Ky., died at his home in that city on February 3.

Earle G. Evans, superintendent of safety of the Louisville & Nashville, with headquarters at Louisville, Ky., died of a heart ailment at the Kentucky Baptist hospital in that city on February 8, after an illness of several weeks.

Solomon T. Gage, who retired on September 1, 1917, as superintendent of passenger transportation on the New York Central, Lines West of Buffalo, with headquarters at Cleveland, Ohio, died at the age of 94 on January 14 at Grants Pass, Ore.

George W. Rear, engineer of bridges of the Southern Pacific, Pacific Lines, with headquarters at San Francisco, Cal., died at the Southern Pacific hospital in that city on February 10 after an illness of several weeks. Mr. Rear was born in the Province of Ontario on June 13, 1873, and attended Campbellford Collegiate Institute from 1886 to 1889. In the latter year, he entered railway service as a student in engineering with the Midland Railway (now part of the Canadian National) and in 1896 he became a foreman of bridge construction on the Grand Trunk (now also part of the Canadian National), later serving as chief clerk of maintenance in the office of the superintendent. In July, 1901, he went with the Southern Pacific as foreman of steel bridge erection and on April 1, 1902, he was appointed assistant general bridge inspector. Mr. Rear was promoted to general bridge inspector, with headquarters at San Francisco on August 15, 1905, and in March, 1922, he was appointed engineer of bridges, with the same headquarters, the position he held until his death. Mr. Rear has been an active member of the American Railway Bridge and Building Association for many years and served as president of that organization in 1916. He was president of the Pacific Railway Club in 1918.

Evert C. Blundell, who retired on November 1, 1938, as assistant to the executive vice-president, in charge of track maintenance, of the Chicago, St. Paul, Minneapolis & Omaha, with headquarters at St. Paul, Minn., died on February 2 at Glendale, Cal.



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February 14, 1942

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